

Review prior to Pre-Heald Pond mtg. on Aug 7

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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: 014750
Date: 30-Jul-1990 02:06pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: EXEC, COMH, ET AL
TO: See Below

Subject: AUGUST 7 PRE-HEALD POND WOODS MEETING *(changed from E.C. mtg. to pre-woods mtg.)*

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At the Heald Pond WOODS meeting, we want to educate our Account Managers and Business Unit Managers on the principles, ideas, and techniques of running businesses within Digital. Most people have assumed that someone else is running the business model; they have never looked at the overall picture and don't have enough background to do so. Therefore, it is very critical that we lead people through all the steps of running a Business Unit.

It is also important that we decide, ahead of time, exactly how we want Accounts, Business Units, and Services to be run, and tell them exactly what information they will have available to run their Units.

At this preliminary session, we will have Professor Larry Selden from Columbia University lecture us on some of the principles of business. But I'd also like some preparation, by the responsible executive, on six of the most serious problems we face at Digital. The following is a list of the problems directed to the people I'd like to prepare and present the answers:

I. COST OF ACCOUNT SELLING

It appears that the direct and indirect cost of selling to accounts is overwhelming, and makes many accounts that should be the most profitable actually unprofitable. I'd like Bob Hughes, Russ Gullotti, and Jim Osterhoff to study a few of the most interesting large and medium size accounts and consider all the selling

costs incurred. Then I'd like them to propose how we can change this to make these accounts profitable, if they are not so. I'd like all the actual costs, not just with the bookkeeping that appears at present. This should include all preliminary selling costs that might take years, the cost of preparing a bid, doing the design, consulting and educating.

I'd like to count the costs of making changes before and after the contract is signed, the costs of changes and correcting for things left out of the bid and the specifications, and the costs after the product has been delivered. What is the cost of making it work, even when it is the customer's or third-party-software company's fault? What is the cost of support after delivery and after the system is working? What is the cost of discounts and allowances to these customers?

I'd like them to propose the model that Account Managers use in running their business and what information we will give them to let them know about the profitability of their accounts.

II. HIGH PRICES FOR RESELLERS

It appears, in order to cover the costs of Direct Selling, we raise the prices on Indirect Sellers. The discounts to Indirect Sellers should approximate all Direct Selling's costs of selling and servicing. I'd like Bob, Jay Atlas, and Jim to propose a discount for Indirect Selling that equals all the selling costs in Direct Selling, so that we can see what that model would do for the Indirect business, and I'd then like to have them propose a model for this business.

III. NO CHARGE FOR CHANGES

In our Systems Integration Business, much of our systems business is not profitable because of our traditional attitude of taking care of the customer, regardless of what might go wrong. It is believed by some people that

we can make contracts and never charge for an increase in the project's scope, changes, specifications, and mistakes the customer or software supplier makes. This, of course, is sure death for the Systems Integration Business.

Most customers expect that after the contract is signed, they will be charged for every change, including removing

the old part of the contract, and they will be charged extra for adding a new part of the contract. If we guarantee third party software and guarantee that we will integrate it and make it work, we take on obligations that may not be wise. If the customer picks

the third party software writer and they take the obligation, they should be sure that they pay for any extra integration charges we have.

I'd like Russ Gullotti to present a model of how we do pricing for the Systems Integration Business with the idea that this model will also hold for systems done outside the Systems Integration group.

IV. NAS

It is believed by some marketing and sales people that with NAS we are promising, at no charge, to integrate any third-party hardware and software that meets our standards into any system that is based on one of our CPUs, and we will do this at no cost to the customer or the third party. It appears that we promise to do this for anybody, anywhere, anytime, in any combination, and

still with no charge. I'd like Pete Smith and Dave Stone to present the rules for using NAS. How do we charge? What do we guarantee? And, in particular, what

is the model when we take on someone else's software and

hardware? How much extra profit is there in hardware sales to help cover integration of someone else's software and hardware?

V. RISC/UNIX TECHNOLOGIES

I'd like Dom Lacava and Kurt Friedrich, in just a half hour, to outline our hardware and software technology for ULTRIX and RISC. Are we going to be able to keep up

with IBM's very large investments in this area?

VI. SELLING VAX/VMS

IBM has now made mainframe computing a legitimate segment of the computer business. It is not in competition with UNIX, but it complements UNIX. We now claim to be a legitimate mainframe supplier with mainframe software, and with a number of very unique and delightful advantages. We offer mainframe computing from the desktop to the mainframe. We can do batch, time-sharing, servicing, TP, and realtime. We can do centralized and distributed processing. We can do a

glass house or we can do a few thousand remote offices.

At this preliminary WOODS meeting, I'd like Bill Demmer, Bill Heffner, and Bob Glorioso to spend a half hour answering the question: Can we sell VAX/VMS against IBM? Then, I'd like them to tell us how we can do it.

KHO:eh

KO:4318

(DICTATED ON 7/30/90, BUT NOT READ)

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EC. *[Handwritten signature]*

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

Date: 09-Aug-1990 11:58am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: ENGINEERING PRESENTATION - AUGUST WOODS MEETING

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At next week's WOODS meeting at Heald Pond, each major group is going to propose how they are going to be the best in the world in supporting the Accounts and the Business Units. This includes Finance, Personnel, Manufacturing, Logistics, and the key Product Engineering groups. Each group will propose how they will set goals, do measurements and reviews, and truly set their aim to making the Business Units and the Accounts successful. They will also lay out their plan for benchmarking their activities in quality, price, and time-to-market.

I'd also like some philosophical discussion of their view of the manager's job. In Engineering, there is two extremely different points of view of how to manage engineering. Today, one common approach to engineering management is that the key job of the engineering manager is to synthesize and announce the strategy for their area. The other point of view is that the engineering manager's job is to manage. The strategy may already be fixed, but sometimes the strategy should come from the Business Units. Sometimes it should come from the Corporation. Most of the time, the engineering manager, with this latter view, feels that it is their responsibility to listen to all the experts, (which sometimes takes forever, or sometimes seems like forever), to listen to the Business Units, to listen to their own people, and to sometimes call in outside experts. From this, they synthesize a strategy and then lay out a plan, a budget, and a project management system and then manage the whole operation.

At the WOODS presentations, I'd like to have the engineering managers propose what their way of managing will be. Will they not manage until they themselves can invent the strategy and make it elegant and simple, or will they at all times manage, and while doing so, use all resources to synthesize a clear strategy when necessary?

I will forever think that Bill Heffner is an excellent model of a professional manager. He claims that he did nothing to develop

the strategy, he didn't invent the strategy, and he simply managed it. This, of course, is an exaggeration, but there is a lesson here.

Bill listened to the experts; he encouraged, developed, and nurtured them, and kept them active by listening to them. From this, there developed the detailed strategy which has been the keystone of the Corporation.

At the same time, Bill laid out plans, budgets, and management systems. He broke the job into pieces that each individual could manage, operate, and be measured on. He developed the system, which he claims came from someone else, that said, every two weeks, they would stop all work, put all the pieces together to be sure that all the pieces did indeed work together. When all the pieces did work together, they would go forward with development.

To the dismay of the rest of the Corporation, he laid out a plan and budget that was accepted and fixed, and one that the people could work on, because of the formality of this budget, he could not and did not allow the plan to be changed every time he met someone in the hall who suggested that something should be done differently. His plans were formally presented and formally accepted. However, I do believe he would have been very open to a formal proposal and a formal approval by the Corporation to make a change. But, by having the formality and a management system, he saved his people from all the changes that would have happened every day when every customer in the Company wanted a change.

Bill did follow the rule of completely free communications with very formal decision making.

Gordon Bell was hardly a great manager, but he did listen to the experts, and from that, formulated general strategies. He drove people crazy because he didn't follow the strategies after he formulated them, and he viewed large portions of his empire as the enemy when they were not doing the latest project about which he was excited. But he did listen to his experts. He did use their advice and suggestions; they loved him, were loyal to him, and they defended him. And, in spite of Gordon's management skills, out of this came some of the great strategies of the Corporation.

We lost a lot of the formal and informal collecting of advice and suggestions, alternatives and strategies. If you have a better idea, let's present it at the WOODS meeting.

KHO:eh

KO:4343

DICATED ON 8/8/90, BUT NOT READ

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Doc. No: 014906
Date: 09-Aug-1990 12:05pm EDT
From: Ken Olsen
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TO: EXEC, COM, ET AL
TO: See Below

Subject: THOUGHTS BEFORE HEALD POND WOODS MEETING

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Life is filled with paradoxes and working them out is the job for the manager. If it were simple, we could do management by algorithm and by computers.

Alfred Sloan, a patron saint of Digital, in his original book laid down two principles. In summary, the first was, "Business Units should have complete freedom to lay out their plans with no interference from above." His second principle was, "The management should make sure that none of the Business Units get into trouble."

In one of his later editions, he said that after a number of years, he realized that these were inconsistent with each other. Now, I would say that the important message was that there is a paradox, and the job of management is to live with the paradox and make the system work. At Digital, we tend to make things black and white and don't want to face the paradoxes. We hassle, forever, looking for a system which is pure and simple, and with no thought necessary. In fact, I think if someone looked at us from a different planet, they would say we indeed want our system run by computer. We want to lay out a system that will produce, at the end, a number which tells how well someone has done with no thinking on the part of anyone.

We put people in charge of Account managers, and we put people in charge of Business Unit managers. We normally pay them in proportion to the money they spend and the number of people they can justify, and some of them are always arguing for more and more authority because there is nothing useful they can do. Some

also tend to spend their time trying to improve the arbitrary measurement they, or the Corporation, has set upon them, regardless of whether it is for the good of, or against the good of, the Company.

In the Account management/Business Unit management system that we will use from now on, I'd like to hold the District and Regional managers responsible for the quality and success of the plans. I'd like to break the Business Units into six or eight groups and have the person in charge of each of these groups be responsible for the planning, wisdom, and thoroughness of plans. I want them to report on the success of the plans of their Business Units or their Accounts.

I, like Alfred Sloan, say the Accounts and the Business Units have to be free, with no interference, to make their business plans. Then I also say, the District managers, Regional managers, and the manager of groups of Business Units are responsible for helping them and guiding them, making sure they are profitable, and they report the results.

At the WOODS meeting, I'd like Dave Grainger to explain how he will manage the Accounts in North America. This should be a separate organization, separately budgeted, and separately measured on a separate line on the P&L. I would like him to spell out the jobs, the budgets, and what is accomplished by the Regional and District managers, and, indeed, the Account managers. Then I'd like three Regional managers to tell us how they help and then, as an example, explain the worst and the best Account teams in their area of responsibility. I want them to know exactly what the plans are, what they are doing to improve them, to make sure they are more complete, and that they will exploit all the potential they have in the area.

I'd like to take two of the supervisors of groups of Business Units, whose plans we will be presenting on Monday to the Board of Directors, and have them explain to our group how they have participated in the budgeting, what their goals have been in educating, leading, and helping, and what their plans are in the future for doing this. We will then have Regional, District, or Account managers report once a month. We will have Business Units, or their supervisors, report once a month on the plans and the results for every Account and for every Business Unit.

We have three major problems that we should solve immediately. We have to assume that we charge minimum prices for the hardware and software that cover very little selling and very little hand holding and consulting. The Account plan and the Business Unit plan must budget how much of this free time we give the customer and how we charge for the other things, and with the result, show how they were profitable. As we hear Account and Business Unit plans, the problem and solution to making money has to be made clear because this is the key to turning the Corporation around.

The second problem we have to solve, instantly, is charging for changes. Everyone else charges for changes; some people make all their money on changes. Being nice people, changes are always free, even when it means more equipment. The business plan has to include a policy for charging for changes.

ENTERPRISE INTEGRATION

I'd like Russ Gullotti to spend time explaining how, in each of his areas of responsibility, he will have a profitable plan. This is especially true of the Integration Services, Special Services, and Software Consulting. How can he recover from the contract which has been poorly done, and how can he have a plan which makes profit on contracts from now on?

I'd like Harvey Weiss to lay out his plans to the group. Some of his are easier, because every one in the Military and Government business is in trouble and it is easier to analyze problems because so many are caused by the customer. I'd like him to break his business into pieces, and explain to us which ones he will get out of and which ones he will grow.

KHO:eh
KO:4345
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Doc. No: 014939
Date: 10-Aug-1990 03:40pm EDT
From: Ken Olsen
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Tel No: 223-2301

TO: EXEC, COMINT, RT AL
TO: See Below

Subject: DIGITAL'S BUSINESS UNIT ORGANIZATION

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This memo is based on the belief that at the York, Maine WOODS meeting we said we would break the Company into Business Units that were organized by Application. We did not say that we would assign all Accounts to Business Units.

We decided, a year ago, that we would organize the Field by Accounts; that each Account would be quite independent, would be entrepreneurial, and would be responsible for a budget that justified expenditures on the Account by the promised returns from the Account.

Early in the spring, at the York, Maine WOODS meeting, we decided to organize the products in the Corporation into Business Units (called Application Business Units) that would serve all the Accounts.

The goal of breaking the products into Business Units was to allow us freedom, entrepreneurial spirit, creativity, fast decision making, and boldness such as our small competitors who do not have the structure of a very large company to slow them down, limit them, and discourage the entrepreneurial spirit. The successful test of our organization will be measured by the entrepreneurial spirit we encourage in Business Units.

Since York, Maine, we have simplified and expanded the structure. The Field is still made up of independent Account teams. Each one of these teams makes a budget, justifies expenditures, and now is required to justify their expenditures by the profit they make. We have expanded the Business Units to include not only

the Applications but Computer Systems, Workstations, Desktop Devices and Desktop Integration Services, VAX Computers, VMS Software, the Service groups under Don Zereski, and the four groups under Russ Gullotti. In other words, all the Corporation's products will be on the list of Business Units.

Each Business Unit will have all the freedoms and responsibilities of a small entrepreneurial business, but will have a large sales force to sell through, and will have the advantage of many of the resources of a large corporation. Like a small business, each Business Unit manager will request funds for their budget, justified by the profit they made in the past and the profit they promise to make in the future. And, as with a small business, they will report their results once a month to their Board of Directors or, in this case, Digital's Executive Committee.

The Business Unit will have all the tasks of a small business, which will include all the things necessary to sell and deliver the product for which the unit is responsible. This might include the design, manufacture, marketing, and selling of the product. The Business Unit will have the responsibility of balancing all the expenditures in a business, with the price that will be tolerated by the market, and the need to make a good profit and justify future investment.

The Business Unit will have the responsibility to market their product, whether it is ULTRIX, VMS, a VAX 4000, a VAX 9000, or an Application. As with Kodak or Polaroid, the Business Units will appear to be marketing to the customer, but their major marketing effort is to the organizations that sell the product. The Business Unit will be sure that the customer understands, loves, and trusts the product, and finds it easy to sell. They will make sure the price list is simple and easy to use, the ordering is very easy, and all follow up is automatically taken care of by them. In summary, their job is to convince the sales people that their product is the easiest to sell, the most satisfying and rewarding, and the one the customers will be the most happy with.

As with a small business, each Business Unit will make a budget and receive each month a P&L statement for each segment of their business. This would include each Application they have committed to from outside sources and each product which they sell. Each month the Executive Committee will look over the summary of these results and, at times, may want to ask for details. Every product will be sold at a catalogue price fixed by the Business Unit. If a Business Unit takes several products, adds an application to it, and packages it to make a high profit, this will make them particularly successful.

Sales people will have to make an estimation of how much sales time and dollars were spent on each product.

In their budget, Business Units will pay for ACTs, DCCs, and

Application investments with third parties, and will have to justify their existence in the return they receive.

It is assumed that each hardware and base software product will be sold at prices which are fixed by the outside world, and, therefore, have little money in them for other application costs. This means that every Application will have to make a profit on the application they sell. Business Units will be grouped into two to six Business Units per group. These group managers will meet once a week to take care of all conflicts in fixing prices or in working together on any account.

Account teams are already grouped into Units or Districts. The assumption is made that Account teams are competent, responsible, mature, and trustworthy, and that they can make decisions about their own business segment. This means that District managers and Regional managers do not have to approve everything or interfere with management of the Account. This leaves them free to do training and to help in technical matters. It has been proposed that Unit managers, District managers, and, indeed, Regional managers be technical experts that can help, not only in budgeting and management, but also in the use of all our products in each account.

KHO:eh
KO:4351
(DICTATED ON 8/10/90, BUT NOT READ)

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F.C. [Signature]

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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: 014934
Date: 10-Aug-1990 02:56pm EDT
From: Ken Olsen
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Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: GOALS FOR HEALD POND

10-Aug-1990 Fri 11:26

TO:

SUBJECT: GOALS FOR HEALD POND

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The goal for Heald Pond is to set up an organization which will give us the advantage of an entrepreneurship, one that is easy to understand, and one that will cut out a lot of overhead and sell a lot of products.

We also want to identify those problems which are sapping our profit today and set about to solve them immediately. Sometimes it seems we make an organization change and we believe that, in time, it will be clear to people that they are doing things wrong. When this happens it is up to them to change it, and we hope that after a year or two the problem will get solved, simply because of the accounting. This is, of course, foolishness and, particularly right now, we cannot wait for time to solve our problems. We have very immediate problems and we should find very immediate solutions.

We have, without a doubt, the best products and the best people, both in the Business Units and in the Accounts. We should be very profitable even in a recession.

Here is my list of problems that I want solved at Heald Pond:

(1) Be sure there is a model for the Application Business Units that proves we make money. There is very little profit left in hardware and software systems pricing to cover all the things we do in Applications. It is probably the largest source of red ink in our P&L statement. We have to insist that every application and every Application Business Unit makes a profit because there is no extra profit in the hardware and software.

(2) We do too many special things for the customer for free. This is becoming a larger and larger part of our cost. Each Account has to have a plan that shows that sales time, support time, planning and design time, bidding, installation, change notices, and correcting the mistakes the customer or we make all fit into a plan and make money. In that plan has to be our discount and allowance schedule.

It seems clear we feel a necessity to also give a discount to those customers to whom we have already given away so much and are already losing money on.

It is said by many people in the Field that these discounts are insisted on by the hierarchy in the Sales department who have no profit responsibility. This needs to be cut down to a very small number and they should not be allowed to insist on discounts when they don't have the responsibility to make a profit.

(3) Our Enterprise Integration is not making money. We cannot wait to experiment any more. We have to lay down rules. We have to have a plan which will start making money immediately and make money on those projects on which we have already bid.

First of all, we have to charge for all changes. No one makes changes for free. Secondly, if we are losing money, we should go back to the customer and tell them so. Most of them want us to make money on their project. These projects are so important to them they don't want a company that is losing money to be responsible for a major portion of their corporation. If the word got out that we lose money on Systems Integration, you can be sure we will get no more business.

(4) In consulting, we should get extra money because of our experience and our people's skill.

(5) Bidding Problem: It is still said that a large part of our problem is tying the diverse Business Units together

into a bid. The way to take care of this is to have a very formal reorganization such as we are now proposing for Business Units. We have a long list of Business Units. Each group of four or six Business Units will have a manager. Every one of those managers will meet once a week to resolve all questions about bids. If it is critical we can get them together by telephone in one day.

KHO:eh
KO:4357
(DICTATED ON 8/10/90, BUT NOT READ

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

CC: Remote Addressee (CLAIRE MUHM @MRO)
CC: Remote Addressee (ALAN ZIMMERLE @CFO)
CC: Bonnie Bedell @ CORE (BEDELL.BONNIE)

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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: 014901
Date: 09-Aug-1990 11:58am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: BILL DEMMER + OTHERS
TO: See Below
CC: EXEC. COMM.

Subject: ENGINEERING PRESENTATION - AUGUST WOODS MEETING

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At next week's WOODS meeting at Heald Pond, each major group is going to propose how they are going to be the best in the world in supporting the Accounts and the Business Units. This includes Finance, Personnel, Manufacturing, Logistics, and the key Product Engineering groups. Each group will propose how they will set goals, do measurements and reviews, and truly set their aim to making the Business Units and the Accounts successful. They will also lay out their plan for benchmarking their activities in quality, price, and time-to-market.

I'd also like some philosophical discussion of their view of the manager's job. In Engineering, there is two extremely different points of view of how to manage engineering. Today, one common approach to engineering management is that the key job of the engineering manager is to synthesize and announce the strategy for their area. The other point of view is that the engineering manager's job is to manage. The strategy may already be fixed, but sometimes the strategy should come from the Business Units. Sometimes it should come from the Corporation. Most of the time, the engineering manager, with this latter view, feels that it is their responsibility to listen to all the experts, (which sometimes takes forever, or sometimes seems like forever), to listen to the Business Units, to listen to their own people, and to sometimes call in outside experts. From this, they synthesize a strategy and then lay out a plan, a budget, and a project management system and then manage the whole operation.

At the WOODS presentations, I'd like to have the engineering managers propose what their way of managing will be. Will they not manage until they themselves can invent the strategy and make

it elegant and simple, or will they at all times manage, and while doing so, use all resources to synthesize a clear strategy when necessary?

I will forever think that Bill Heffner is an excellent model of a professional manager. He claims that he did nothing to develop the strategy, he didn't invent the strategy, and he simply managed it. This, of course, is an exaggeration, but there is a lesson here.

Bill listened to the experts; he encouraged, developed, and nurtured them, and kept them active by listening to them. From this, there developed the detailed strategy which has been the keystone of the Corporation.

At the same time, Bill laid out plans, budgets, and management systems. He broke the job into pieces that each individual could manage, operate, and be measured on. He developed the system, which he claims came from someone else, that said, every two weeks, they would stop all work, put all the pieces together to be sure that all the pieces did indeed work together. When all the pieces did work together, they would go forward with development.

To the dismay of the rest of the Corporation, he laid out a plan and budget that was accepted and fixed, and one that the people could work on, because of the formality of this budget, he could not and did not allow the plan to be changed every time he met someone in the hall who suggested that something should be done differently. His plans were formally presented and formally accepted. However, I do believe he would have been very open to a formal proposal and a formal approval by the Corporation to make a change. But, by having the formality and a management system, he saved his people from all the changes that would have happened every day when every customer in the Company wanted a change.

Bill did follow the rule of completely free communications with very formal decision making.

Gordon Bell was hardly a great manager, but he did listen to the experts, and from that, formulated general strategies. He drove people crazy because he didn't follow the strategies after he formulated them, and he viewed large portions of his empire as the enemy when they were not doing the latest project about which he was excited. But he did listen to his experts. He did use their advice and suggestions; they loved him, were loyal to him, and they defended him. And, in spite of Gordon's management skills, out of this came some of the great strategies of the Corporation.

We lost a lot of the formal and informal collecting of advice and suggestions, alternatives and strategies. If you have a better idea, let's present it at the WOODS meeting.

KHO:eh
KO:4343
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F.C. [Handwritten signature]

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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: 014887
Date: 08-Aug-1990 12:31pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: WIN HINDLE ET AL
TO: See Below

Subject: AUGUST HEAD POND WOODS MEETING

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Larry Selden challenged every one of us to be sure that all the costs for all the services that fit into each Business Unit be best in class or best in the world, and that in order to work Business Units have to have a feeling of control over them.

It would be a catastrophe if the first thing we told Business Units to do was to straighten out all engineering, manufacturing and selling. Clearly, the first thing we ought to do is to set about to make each one of these the best in the world at the same time the Business Units are setting out to make their Business Units the best in the world. When we have succeeded in organizing all parts of the company to a level approximating our goal, then the Business Units can be in a position to pass judgment and suggest what is needed for their improvement.

In order to accomplish this major first step in changing each of the parts of the Company that serve Business Units, we have to make a major step in improvement. For the first night at Heald Pond, I'd like for each of these groups to spend twenty minutes, or half an hour, presenting their plan and their goals of how they will be best in the world in serving the Business Units.

- I. Most of the discussion was on finance. I would like Jim Osterhoff to, first of all, explain his goals, make an approximate commitment as to when he will accomplish them, and let the group make suggestions of things that may not be important or things left out that are critical. I think finance should be broken into two pieces; that group which collects data for the Annual

Report and paying taxes, and that group whose sole goal is to help Business Units and other services to run their business. It is the latter that is of interest for this meeting.

- II. I'd like Bill Hanson to explain some of what he has already accomplished. But, in more detail, explain how he will make all parts of Manufacturing best in class with measurements and benchmarks.
- III. Then, separately, Bill should tell us how he is going to take care of all the logistics that have frustrated the Company in so many ways and which include order processing, bid making, and instantaneous data to the pocket computer held by every sales person.
- IV. I'd like Dave Grainger to simplify the organization and separate out everything from Sales except account management and its support. He should explain how he will make that for best in class, how the organization will support, help, educate, comfort, and challenge account managers but still give them the freedom to be truly entrepreneurial. He should set goals for the cost of the overhead structure to support the accounts and what the costs should be for the accounts, assuming that many of the Services are budgeted and supplied by the Business Units.
- V. Pier Carlo and Dick Poulsen will propose how they will do the same in other countries, how they will separate out all those other functions we do in other countries and apply in our financial statements what the extra costs and what the markup is to cover them, and indicate whether the markup covers the expenses with something leftover or with a shortage. Today, it is confusing to have the markup in the top line of the P&L and the expenses that it justifies and that eats up most of the markup down in a huge category called extra overhead. If Dick and Pier Carlo can explain the selling cost in the same simple way as Dave Grainger should, it will be easy for us to understand and work with it.
- VI. Bill Demmer will explain how VAX hardware and VMS software will be best in class, price, quality, features, inventiveness, creativity, and predicting what is needed in the Field.
- VII. Dom LaCava (or Kurt Friedrich) will do the same for ULTRIX.
- VIII. Bob Palmer will explain his goals and dates for Integrated Circuit engineering and manufacturing.

IX. We will have the same presented for Disk engineering and manufacturing.

X. Grant Saviers' engineering will be included as part of his Application Business Unit expenses.

We will not have time to have a long discussion of each one of these topics, but we want a short, snappy, concise commitment as to what will be accomplished for all the Services that support the Business Units.

KHO:eh
KO:4338
DICTATED ON 8/7/90, BUT NOT READ

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TO: Abbott Weiss
TO: DONALD ZERESKI

(WEISS.ABBOTT)
(ZERESKI.DONALD)

CC: Dom LaCava
CC: Kurt Friedrich @CORE

(LACAVA.DOM)
(FRIEDRICH.KURT)

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E.C.

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

Doc. No: 009308
Date: 10-Jul-1989 10:06am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

J. Sims
TO: See Below

Subject: GOALS FOR HEALD POND MEETING

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There are two problems I'd like to solve at the WOODS meeting. I have little interest in listening to consultants talk in generalities about the future of business when they don't know our problems. We have two problems:

1. We are the worst Company to do business with. Our customers wouldn't have anything to do with us if they had any choice. If they could get our products somewhere else, they surely wouldn't suffer with Digital.

Our sales people are frustrated, overwhelmed with red tape, rules, micro-management, and grossly inefficient. Their motivation is unbelievable considering the frustration they live with.

2. Three quarters of our products never make a profit and don't even return their investment.

SOURCES OF PROBLEMS

I think there are two things that cause our problems. First of all, each group has their own set of measurements and goals which are not consistent with the Corporate goals. For example, Finance, Personnel, and Legal are out to save money regardless of what it costs the Corporation. Finance, Legal, and sometimes Engineering, feel their only goal is to keep us out of trouble. They add red tape, overhead, rules, and micro-management with no views to what this costs us. They are oblivious to the Corporate goals. They are called "Sales Prevention Group" by sales.

At the Heald Pond meeting, I'd like to be sure we all work toward the same goals.

Sometimes engineering groups feel they are measured solely on transfer costs of the product they are designing and don't believe that capital costs or time-to-market are their

responsibility. Finance thinks that twelve signatures makes them safe from criticism, but what it does to the Company is not considered.

Legal frustrates our customers so that they can avoid being criticized, but they don't notice the customers who never come back to us.

MATHEMATICS OF MANAGEMENT

We often don't do the simplest of mathematics. For example, if our new warranty program raised our prices five percent, but if it takes 25 to 35 percent of the sales person's time to try to manage it and causes them no end of frustration and discouragement in the process and takes enormous overhead in headquarters, the area, order processing, and in manufacturing to handle it, what is the total gain to the Company? The customers used to think our one-year warranty for everything was the greatest, nicest, and simplest of anybody in the market. Now many of them won't have anything to do with us. Our order rate dropped last year probably because of this enormous complexity we introduced into the system. Simple mathematics would have shown that the gain we made by raising prices was overwhelmed by the enormous red tape and frustration of sales people and customers and the mistakes in making orders and bids.

We developed in sales itself enormous red tape generation and micro-management in headquarters and areas. It seems like such good business to have controls to tell everybody what to do, but the cost to the sales people is so high and the frustration is so great, what is the mathematics of the return for all of this red tape, control, and frustration?

WHY WE DON'T SELL THREE QUARTERS OF OUR PRODUCTS

I propose that we only sell those products about which product management is enthusiastic. Most of the products we do because we have to do them, but there is little interest in the management. We also only include certain kinds of people. There is no power supply, packaging, terminal or people with mundane interests such as serial lines and ETHERNET.

The implied or explicit message from product management is that they are interested in future things and are bored with the products that we have to sell today is very clear to the field. They study where the interest of management is and try to sell those products.

I propose that if we study the products that did well and the products that did poorly or sold not at all, we would conclude that those products represented in Jack Smith's staff and those products which were enthusiastically supported by Jack's staff have done well. Those products which had no support in Jack's staff and considered not of computer science interest to be

represented in Jack's staff or when Jack's staff is off and interested in the future things and not on today's products, those products did particularly poorly.

KHO:dao

KO:3199

Dictated on 7/9/89, but not read

Distribution:

TO: John Sims

(SIMS.JOHN)

CC: Jim Osterhoff

(OSTERHOFF.JIM)

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(HINDLE.WIN)

CC: Jack Smith

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CC: Jack Shields

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CC: Remote Addressee

(BONNIE BEDELL @CFO)

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: 008007
Date: 10-Jul-1989 10:06am EDT
From: Ken Olsen
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Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: GOALS FOR HEALD POND MEETING

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E.C. *Heald Pond Woods*

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

Doc. No: 009324
Date: 11-Jul-1989 10:47am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Willow Shire
TO: See Below

Subject: TENT CITY AGENDA

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I'd like to be sure that we walk away from Heald Pond Tent City with a clear model of how we plan to run the business and how each part fits together. Our problem today is that everybody has a different model, and most groups are looking at it from their point of view. Some are trying to avoid risk at all cost, to keep Digital out of trouble; others are trying to save money at all cost, and still others to develop technology whether the customer wants it or not or whether or not we will sell it. Some are trying to cut manufacturing costs regardless of what it costs the Corporation, some are trying to grow, and some are trying to cut costs.

We can't run the Company unless everybody has a common view and a common model of the Company with clear Corporate goals that we all work together on. I think the first thing we should do is break them into groups. Each group should develop a model of the Company for the next five years. This model can be very simple and it can be a trivial spreadsheet that can be done manually with only ten or fifteen line items, but it should be done for at least five years.

I think you should ask everyone to take enough data with them so their team can develop a model that will answer the major questions of the Corporation.

Even though I believe a simple spreadsheet can be done manually, we might get a lap top computer for every group and let them do it by computer. The problem with that, of course, is that people then try to add too much detail and then they don't have any feeling for it. If it's done manually, it's kept simple and doing the calculations gives them time for the model to soak into peoples' heads.

I thinks it's clear that everyone agrees that the goal, from the stockholders point of view, is that we should increase earnings per share at the highest possible rate. Today, some people think

only of profit, and others think only of growth. A model spread over five or ten years would demonstrate how these two fit together.

Some product groups feel they should spend 30 percent of their sales in R&D and enormous capital, but they see no obligation to grow. A model would demonstrate the wisdom of this strategy.

Some people don't have a feeling for the cost of capital and a model spread over several years would give a good feeling for this if people have the opportunity to let it soak in and become part of their everyday thinking.

Some people still think we get more sales by hiring more sales people, beating on them, setting higher goals, punishing them, and motivating them by things like DECathlon. I'd like part of the model to identify what things make sales efficient and productive, and what is the cost of red tape, controls, micro-management, tedious approvals and more tedious information in order to make proposals. I'd like the model to demonstrate what it cost to gamble on the honesty, integrity, motivation, and wisdom of our sales people as compared to not trust them, demotivate them, beat them, threaten them, and hire more to get more sales.

I'd like in the model for people to demonstrate what they feel is the importance of education and product knowledge in the sales operation. Is threatening and bribing more important than knowledge?

I'd like also to build into the model a test of the various ways we do engineering. We all assume and take for granted that we have to have clearly-specified Corporate goals for engineering, and we have to have very clear standards so that everything we do fits together. It is also assumed that we won't sell two products that do the same thing, even though it is not unreasonable to develop two products that do the same thing so long as we won't go into production with two.

The question then is: What is the best way to get the highest productivity in engineering? Do engineers work best when they are continuously politicking for their budget because it is perpetually in danger all year long? Do they have to go to every possible meeting and present their pitch to every possible group so that their budget won't be pulled out from under them?

Do the senior people have to attend many meetings every week as part of their duties, and if they do, is the content of these meetings pertinent to their job?

In engineering projects, what is the relationship between genius on the part of the leader, and team-building where the genius is encouraged in all the workers?

Digital has had great experience in 32 years of motivating engineering and a number of bad examples of catastrophes in building the model of what we believe the optimum way of running engineering.

I think every person should fill out a questionnaire before they go and keep it there as a record, and we should also keep a record as part of the minutes. The questionnaire should include questions such as: What is the market open to us for our 2000, 3000, 6000, and AQUARIUS machines? What is the market available for us in small business, OLTP, database machine, office, office LAN, factory, banking, insurance, etc?

Then each group should consider the questionnaire that their members have each filled out and decide what they think our goal should be as far as capturing the market share which is open to us. If there is only seven percent market share available to us, that's one thing; if there is only seven percent growth available to us each year because of market limitations, that's another thing; and, if there is three or four hundred percent available to us, our model should show what the limiting factors are and then, of course, when we come back to the group, we should consider each factor and decide how we take care of these.

KHO:dao

KO:3205

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Doc. No: 022920
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Dept: Administration
Tel No:

Win + others
TO: See Below

Subject: PROBLEMS FOR HEALD POND - REVISION 1

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Here are three statements of the corporate problem.

I. Many Digital employees are under employed, do not have clear goals, and do not have problems they can work on.

I refuse to make a John Aker's type statement that they are lazy because it is clearly managements' fault when people do not have work to do.

II. A grossly simplified statement of our operations would be:

We spend \$1.5 billion on product development and do not get our moneys worth and do not sell products worth \$1.5 billion in development.

We spend even more on marketing our products.

In sales, we spend equal to the sum of both product development and marketing, but our sales people and customers do not understand our products. Our products are hard to configure, and they are hard to bid. Our strategy is not clear and our capabilities are not understood.

First of all, this is an accusation against our technical development because development is done without plans for marketing, training, teaching and propagating our products and strategies. It is also an accusation against marketing because marketing does not accomplish marketing. It is an accusation against sales because we have an expensive sales force who are not educated and knowledgeable.

RP

III. In the great days of Digital, when we had growth of 30%, 40% and 50% a year, we were a marketing company and our goals were primarily to clearly understand the applications and the industries of the 30+ Product Lines in which we invested. We truly were experts and did niche product, niche applications and all the little details necessary to take care of the customer. We also had great computers, great architecture, great networking, but we never had the fastest nor did we have the cheapest computer.

Today, we say we cannot win unless we are the fastest and the cheapest, and we have so much to invest in architecture, therefore, we have no money to be experts in applications and have to buy the expertise outside.

There are two problems with this. First of all, it is not clear that the customer wants to buy from a hardware company who claims no responsibility or expertise in the application, and it is not clear that it is economical to pay for all the marketers and all the sales people, and tell them that we cannot afford to make them experts.

IV. Our organization chart does not make sense. Pier Carlo does everything for Europe. He is our politician, our strategist, our spokesman, and he runs everything himself. He has no chief of operations and this is definitely not the way to run a large operation.

Jack Smith also has a large number of people working directly for him, and he needs someone to advise and help.

Dom LaCava has one person running the UNIX software business, and under Don Gaubatz, there should be three or four people for each project, each of whom feels they are a Business Unit.

V. With a small number or very strong minded senior managers within the Company, it is currently observed within the Company, by teachers and consultants from outside, that young people are afraid to speak up and express their opinion. In spite of the New Management System, it is not unknown for senior people to still assume they have arbitrary power over the Business Units that are under them, or that they can, in fact, take people into their group with their budget, then eliminate that product line and take the budget for their own goals.

KO:5650
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Doc. No: 023158
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From: Ken Olsen
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Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: JULY 1991 HEALD POND MARKETING WOODS MEETING

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The Heald Pond meeting was good. I think there is a place for small meetings and big meetings. The one common observation is that in both cases, we should only use them to face hard questions and get hard answers, and not leave until we have accomplished this.

I was worried about this large meeting, with almost fifty people, because it is hard to discuss tough questions. However, I concluded, like the meeting on the New Management System we had a year ago, it is important to get a diverse group together in order to have them take part and to really understand and learn the decisions, the goals, and the plans. When we get a small, meditative group together, the results are often good. However, all too commonly, nothing happens because the communication of that message never gets through to the rest of the organization. In a meeting like this, where there are a few people from Europe, some from GIA, a number from the U.S. Field and other groups, there is enough diversity to get a feeling for the problems and the ambitions.

The Company is also filled with staffs laying out rules, regulations, documents, plans, schedules, disciplines, etc. All they see is their narrow view of the world, the regulations they have to impose, and the people they have to control. I think having some of them exposed to the rest of the Company does help.

I do not think we planned this meeting well. We did not outline the hard questions, nor did we communicate decisions we needed made. Instead, in our planning, we tended to have some of the best of the groups report and ask the larger group for comments.

KR

We could have done this in a hotel some where. What people liked and felt was satisfying was when we said: "Oh no, that is not the question. Here is the tough question." And we then argued it out. I think people would have been bored and the meeting would have been a failure if we had limited it only to making comments on well polished presentations from very successful groups.

Before any WOODS meetings, I propose at the last minute we say: "Here are the tough questions, here are some of the choices, and here is what we will come back with." If this is not organized, we should cancel the WOODS meeting.

On the other hand, except the small, meditative ones, I think we should plan as much as possible for all WOODS meetings to have a cross section of people from Europe, GIA and remote parts of the Company. Today, Europe and GIA are so isolated from the U.S., and parts of the U.S. are also very isolated. I think getting a few people involved makes an enormous contribution.

Unfortunately, I was the one to stir things up. Everyone there wanted to present the status quo and defend it. They wanted to look for decisions, but they did not want to really take anything hard, and when questions did come up, the answer always was, "My staff will look into that."

Here are some of the more obvious questions that came up and to which I think we should just go ahead with the obvious solution:

I. DESKTOP STRATEGY AND MARKETING

We have one group doing PCs, another group doing VAX workstations, or UNIX workstations, and another doing PCs for business. No one in particular is doing timesharing. We have networking spread between John Rose and NAC. Everyone tells the salesperson and the customer that what they have is the best in the world. However, no one has a consistent story of the customer's needs for the salesperson, whether it a be tiny number of things in terminal mode, or the most complex, large, high-speed network. No one can tell them why they should be all terminals, PCs, workstations or a combination. No one tells them what they should use and what software is available. We are definitely many companies, each competing with each other, and no one wants to integrate because they may lose their own independence. The salesperson has to figure out the integrating picture, but no one in Marketing is going to help them. We do not do that kind of marketing.

II. The New Management System I propose makes the organization obvious. Each of the people who now claim responsibility for making the world go all their way are really Product Business Units. They should document

Novell

their products, but there has to be a corporate, very-high-level, desktop marketing team. This should not be one more of Pete Smith's teams. It should be a very senior, separate group. They should present the picture all the way from FDDI, ~~Novell~~, and Pathworks, ALL-IN-1, terminals, Apple computers, PCs, workstations, etc. We should have one story which covers everything.

III. Our message should be that we can do anything Sun can do, or we can do anything ~~Novell~~ can do. Our message should be that we guarantee desktop networks that work and do not cannibalize themselves.

IV. The Field started to present a new system for eliminating arbitrary, stupid, big company discounts. However, they were not brave enough to say they are going to cut the price and get rid of the discount. Instead, they had to develop long, complex methods with exceedingly complicated techniques of telling the customer and the salesperson they might get the discounts back if they promise things. This was the result of Digital's way of turning everything over to staff to develop. One just knows that when staff develops something, it has to get complicated with volumes of rules, regulations and controls.

V. Last year, when we said the New Management System was simple and we would trust the account manager, immediately people said, "Great, but here are the volumes of rules for them; here is the staff to watch them and protect the Company from them; and here are the procedures they need to make decisions and to get resources."

A staff's motivation is to make sure they have control and that people do things according to rules and regulations. Even though the people making the rules and regulations have no experience and no responsibility, they feel they have ~~discount~~ and allowance decisions they made. They did not mind the person doing these things, but they now do not want the salesperson to do it unless they go through an infinite amount of detail and an infinite amount of education on finance.

VII. The account should understand the simple terms: the cost has to be less than what they get, and the difference is profit. They have to learn more than this, but above all, this is what they have to know. Then they can go run their business.

The third area people continue to talk about is that they think we do not have a problem because everyone is working together, everything is beautiful, and we are making a lot of money on EIS. However, there is a

problem marketing EIS.

People say everything is working out well and EIS does everything. They understand everything to do with the products and they are in complete control. They also say Pete Smith's marketing groups are in control, and they work together nicely, and they do not want anything changed. In spite of the fact that people do not want to consider change and do not want to organize it, it is very clear we have two people doing the same thing in each space. They work together, but without any organization, and we are not making money.

I use the example of Abbott Weiss. EIS says they look at everything they have done in retail before they do a job. They have it all under control. They do not need a full-time marketer on retail. Pete's people say Abbott has not accomplished anything yet, but he is new on the job, so do not complain. When he is organized he will know everything and do everything.

From my point of view, we have two groups marketing the same job. EIS markets everything together as one big, uniform glob. I cannot instantly find out how all retail jobs have done financially, or about growth or profit, nor can I instantly get an EIS retail conversation going. There is no one working full-time, day or night, worrying about retail. There is no one visiting customers or understanding them. But, from an EIS point of view, they are doing a great job. However, from a scheduling, project management and quality point of view, they are not worrying full-time about retail.

Abbott, meanwhile, is worrying about retail, but there is no particular reason why EIS has to tell him about the jobs they are doing. He is in the same area. They love each other and help each other, but no one in EIS is doing the market definition, market exploitation, and market growth, and no one is showing the market love. Abbott is trying to do it from a distance.

It is clear, at least to me, that there has to be one person in charge of retail marketing for the whole systems business. This is not to encroach on EIS. EIS designs, builds, makes run, and guarantees retail systems. This retail marketer does all the traditional marketing and takes full responsibility for our share of the market, and indeed, its profitability. They also define the missing technology, the available components and all the software we are not using.

There were two issues we did not go into. The first one is training. Right now, we leave training up to many staffs, each

of which is to get their share of training and to make sure they maintain their overhead structure and their own tradition.

We need to arrive at a point where training is not integrated by many staffs. It should be integrated at a corporate level to make sure it is logical, simple and straightforward. We should be sure the Field does not spend all its times being trained on reward systems and techniques to encourage the customer to buy things in ways which will give them more discounts. Instead, we should develop sales teams expert in the customers' needs.

The other thing we did not get into is how we should assign responsibility for timesharing. Timesharing is a major business we have left with IBM because we are embarrassed by the old technology. However, if we got back a small fraction of what we left with IBM, it would be a major business for us. We should swallow our pride and sell what the customer wants. The only way to do this is to assign someone to develop the product and prepare it for market.

We should be sure we have a high-level desktop marketing person in the Company. One can imagine the frustration the salesperson or customer has if they try to find out all we have to offer on the desktop. One has to go through ten different telephone numbers and then gets eir desk for word processing, mail, and computations. We should be the heroes to integrate all of this for every engineer in the world.

KHO:mtw

KO:5682

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Doc. No: 023355
Date: 08-Aug-1991 04:04pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: PRE-HEALD POND WOODS MEETING MATERIAL - MEMO I

THE SUBJECT OF THIS MEMO IS: REVOLUTIONS AT DIGITAL

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We have had three revolutions at Digital. The first was when we were about five years old. We had done well, we seemed to be profitable, and we were growing fast.

At first, it was easy to keep a team spirit because we were small. In time, everyone wanted to be a boss and spend money, but without the responsibility. We ran the Company with a committee of about twenty people, all of whom had ideas for spending money, and I was the only one with an overall view to make a profit. They thought I was a dictator, and they complained to the Board of Directors. I could see we were in trouble and I talked to General Doriot about selling the Company to Singer.

Instead of selling the Company, we divided it into Product Lines, each of which ran their part of the Company as if it were a business. Everyone was against the idea. The Board was against it because we were very profitable. One of the Directors threatened to sue me for pulling a fraud on the public. General Doriot said he supported me in anything I did, but he lectured me on why it would not work. Everyone thought they were demoted and many of the senior people quit because they refused to take orders from a manager younger than themselves. However, the result was that they were the stingy ones who had to meet a financial plan and I could be more or less the good guy. We had many years of tremendous growth, large profits, and we filled the world with computers.

RR

The second revolution came after years of great success with the Product Lines. Many of the leaders felt the success was due solely to their genius and efforts. Mathematically, results cannot be solely the result of many people's work, but the blindness which comes from many years of success in watching one's Product Line grow by a factor of one hundred or five hundred can easily distort one's view. They got to the point where they were competing more with each other than with the outside world and there was no communication between themselves or with Engineering.

I then announced we would abolish Product Lines and the whole Company would work together as a unit. From this came the theme: "One Company, One Strategy, One Message."

This theme did not mean we would only sell VAX and VMS. It did mean that every unit of the Company would work together. Almost all of the Vice Presidents quit. The world thought Digital had collapsed. Each one of the people who quit could not imagine that I would be so disrespectful as to expect them to work together and with others. It was inconceivable anyone as great as they could be asked to cooperate with others. My old friends left and continued to bad mouth me for years because of this.

The "One Company" strategy worked beautifully. In just a few years, we became a significant player in the computer industry and were acknowledged as a worthy competitor to IBM.

Alas, with only a small number of years of success, we need another revolution. This time, all people are nice--no traditional prima donnas and no unpleasant personalities--but, we are not working together, and we clearly are not oriented to take care of the customer's needs.

The question to be asked today is: "If we do so well not working together, would we not do great if we worked together?"

The problems we have today are:

- (1) We have taken decision making away from the myriad of people who want to do things, with the result that we have thousands of very seriously under-employed people.
- (2) We are grossly uncompetetive because every group measures themselves within self-defined limits which make them look very good.
- (3) The organization is not clear. A lot of people claim to have authority over everything but there are vast areas for which no one is clearly responsible or reporting on.

The New Management System claims to encourage people to propose projects and take responsibility for them. The traditional management, which is very top-down, still does not encourage this because their projects take up all the money the Company can afford.

The obvious solution is to define benchmark costs as everything for which someone is responsible and to ensure all costs are included in the benchmark.

(I lost track of my logic and will continue this later.)

KHO:eh
KO:5746
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From: Ken Olsen
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Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: PRE HEALD POND WOODS MEETING MATERIAL - MEMO II

THE SUBJECT OF THIS MEMO IS: INTRODUCTION TO THE NEW MANGEMENT SYSTEMS, PHASE II

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THE FIRST STEP

The first step in the New Management System, Phase II is to develop a simple but careful definition of how each part of each organization fits into the delivery of products to the customer. If you ask anyone on the outside how one should work with a company, they would normally say that the sales person is the basic source of information as to what problems the customer wants to solve. Marketing would traditionally formalize and organize these needs. The product people, or technologists, would propose technical solutions. These solutions would only be complete if every piece of hardware, software, and systems engineering was done so the customer or Digital could deliver the solution.

In the great days when we had twenty or thirty Product Lines, each serving a group of customers, it was their job to organize the customer's needs as seen through the sales people, and to ensure we had a complete set of products. Since we dropped Product Lines, it appears to our Board of Directors that we have dropped any organized approach to meeting customer needs and instead spend almost all of our budget on technologies which do not necessarily fit together and clearly are not aimed at those needs. Our budget requests to the Board seem random, disconnected, and not aimed toward the customer. The Sales Department, at a huge expense, somehow, with a little help from

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the product people, has to design solutions with components from Digital and outside companies.

The Board of Directors would like to see our organization in perspective to determine how things fit together. When the Board listens to some of the major product groups, it seems their goal is clearly to do things the way they always did and not to change. They measure themselves by being the fastest, with the lowest price for the box they define as their responsibility. There is little effort to make even the box easy to understand and sell, or something for which it is easy to train the sales people.

Sometimes, the product groups appear to sell concepts such as NAS and Open Systems. These concepts are great and better than anyone else in the industry, but, most of the time, they are of no help in solving the customer's problem. We need to clearly present an organization chart to the Board (even though we do it largely for our own use) to show how things fit together, and we have to make a clear statement of each group's goals and how they fit in with serving the customer, particularly when the customer is an in-house group who is going to integrate the product into their product. Marketing groups have to make simple statements to define their job and specify clearly the marketing jobs they are not doing.

If I were to make goal statements for various groups, I would say: the NAC group's goal is to sell expensive, high-profit, obsolete products in order to justify expenditures and esoteric engineering.

I would say the CPU group's goal is to make fast and cheap computers with little help in making them into systems that would do things, and with no goal to make the system cost competitive, only their component.

A simple statement for most marketing groups would be that they want to do those interesting things they call marketing, without having to learn the products and technologies, or to be expert in the needs of the customer, and they want to spend money on advertising, which can be done with no knowledge at all. Services enjoys the inefficiencies of the systems we build because they can charge a lot for finishing the job.

Sales is devastated because of lack of training and education, but they have to design systems with what is available and lose market share in most areas.

The Sales Department has grown huge because it had to build up marketing, engineering, and technology experts to compensate for the lacks in products coming from the product people.

Today, the challenge is: How do we build an organization in which every person serves the customer, even if it is the Sales

Department, and how do we present this to the Board of Directors so they can put our budgets into perspective during the months of August and September?

KHO:eh
KO:5736
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From: Ken Olsen
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Dept: Administration
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TO: See Below

Subject: PRE HEALD POND WOODS MEETING MATERIAL - MEMO III

THE SUBJECT OF THIS MEMO IS: THE NEW MANAGEMENT SYSTEM, PHASE II

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Phase I of the New Management System has done well in getting people oriented toward making profit in those areas where they add value for the customer and to separate all those things we do which do not add value to anything.

We decided that every quarter we will update the remaining three quarters of the budget and add one quarter, so that at the start of every quarter we have a four-quarter budget. It has been requested that sometime we add two quarters to this, so that at all times we have a budget which encompasses a fiscal year. However, we will not do this at this time.

In August and September, we will do the budgeting so that toward the end of September we will develop a budget for the next four quarters.

Bill Strecker and I are developing a list of expert committees to be a board of directors for various parts of the Company. These committees will be supportive. They will have long term responsibility and they should not have the terrifying effect STF had on many projects. These committees will take part in helping the definition of a project at its start and will review the budgets in detail at budget time. They will tell the Executive Committee or the Board of Directors their points of view on questionable items, and like any board of directors, they will not take part in detail management but will share the responsibility.

RR

PART I OF PHASE II

The primary change in Phase II is in the definition of benchmarking. The main contribution of Phase I was to get each part of the Company oriented to make profit on the costs they incur. The goal of Phase II is to make everyone realize their benchmark costs include all the costs for which they are responsible, even though they are in someone else's budget. This has been a problem in the Company for fifteen years or more and we now have a simple mechanism for taking care of it. I think almost every part of the Company has this problem. Each person wants to define their responsibilities in a neat, simple way. But, if everyone defines their benchmark very narrowly and leaves the implication that all the other costs are someone else's responsibility, there is a huge amount of expenses which people politely, or impolitely, imply is the responsibility of the other spendthrift.

Normally, these decisions basically are made early in the food chain, which means our product generation makes most of the decisions, and most of the costs end up at the end of the food chain, which is the Sales Department.

In Phase II, our benchmark costs will be the total cost incurred in building, ordering, delivering, installing a complete system, and making it run. Traditionally, engineering managers allowed or encouraged their engineers to benchmark themselves on the basic, simple box, with the result that very expensive, in fact, very, very expensive, services had to be added, but were never realized by the designer. For example, workstation designers are encouraged or allowed to measure themselves on the basic CPU box. This turns out to be a small fraction of the costs incurred by the decisions involved in the decision making.

The costs of the CPU box might be less than \$2000, but the cost of Ethernet adapters, sidecars, super boxes, cables, add-on modems, tape boxes, and other peripherals, plus the cost of configuring, bidding, ordering, order processing, shipping, straightening out mistakes, opening cardboard boxes, reading directions, putting it together, installing software, making it work, straightening out mistakes, means the cost to Digital and the cost to the customer is many times over the part on which engineers measure themselves and which the group calls their benchmark price. Yet, all the decisions about how it is going to be packaged, plus all the costs for making special design boxes for the pride of the engineer are encouraged by the engineering manager.

Product people in engineering claim first call on a budget. They claim they are the ones to make all the decisions. They also are very critical of the high cost of the service and of selling, and all the overhead which comes from Manufacturing. In Phase II of the New Management System all of the costs incurred by engineering decisions, including all of the tooling, inventory,

and disposing of unused inventory, come about because everything mechanical which is done special for every job, will be clearly a part of the benchmark cost.

The idea that systems engineering will be done after the fact by committee and academics will take years and years of committee meetings if we encourage the engineer to build irrevocably "unsystemness" into their products.

This change will be hard because engineers have refused to consider serial lines as part of their responsibility and in the past this was often one of the most expensive parts of our product costs. Even today, engineers refuse to know the difference between RS 423 and DEC 423 and the elegant features of DEC 423 and why it is a Company standard. They also refuse to understand why we use ThinWire and why it is so much more elegant than any other way. Costs to the Company and costs to the customer is not one of the factors they look at today. It is often a matter of pride not to use what another part of the Company has decided upon.

The competition for products will be the Dell Model. In the Dell Model, everything is built into one box, including the software, delivered ready to open and ready to be plugged in, with all the costs of "systemness" incurred by the engineering product group who has to understand everything from serial lines to Ethernet, to all the costs of designing one more cable into the system.

Today, Digital has better concepts than anyone in the industry with NAS, Open Systems, networked supplied software, where customers pay real money for real problems to be solved on real equipment, and sometimes we are like the preacher who is said to have been so heavenly minded he was of no earthly good.

Probably the payoff in Phase II will most significantly end up in product generation groups, but the same will be done in every group in the Company. Where a group makes the commitment for an expense, it becomes part of their benchmark price.

PART II OF PHASE II

Part I of Phase II of the New Management System says we will charge to the benchmark price a thing for the whole Company and identify those things for which no one claims responsibility but must be part of a manufacturing company such as ours.

PART III OF PHASE II

Gordon Bell invented a new way of doing engineering. He called it "division of labor," where we had experts doing each part of engineering, just like some think Henry Ford did in his production line.

In a new MIT study on the automobile industry entitled, "The

Machine that Changed the World," they came to an obvious conclusion. Henry Ford did what we would call "systems engineering." He had standards and he developed a system of measurements so components would fit together without hand filing and adjusting, and his cars went together cheaply, quickly, and very reliably. His system worked long before the days of the assembly line, and it revolutionized manufacturing, even when they were building one car at a time with one team doing everything.

One of the Japanese's contributions was to free the world from the traditional assembly line--where one person does one thing--by giving people broader responsibilities such as, pressmen who made sheet metal parts would also change and adjust the dyes.

It might be American managers who feel they could do everything and include systemness and all the planning. However, it is much more efficient if people on the line do the thinking and take responsibility. I think the same is true with marketers and engineers. The reason many of them feel under employed and unchallenged, is that so many bosses think they can do the whole job for everyone.

PART IV OF PHASE II - LEARNING AND TEACHING

By policy, we say we only have enough money for architecture, so we cannot make experts nor can we afford to do niche products, with the result that we have thousands of marketers, thousands of engineers, and even more thousands in the Field to whom we pay salary and overhead and who are often under employed, and we tell them we cannot make them expert or give them responsibility.

We have marketers who know nothing about our products. They have never built anything, so do not understand them, but they want to be told in twenty-five words or less what NAS or Open Systems is, and then they will market it.

We have engineers who have not learned anything new about the expensive part of our machines in the last fifteen years, and have no system for estimating cost and no feeling for project management systems.

The product people feel no responsibility for teaching marketing or completing the documentation on the products they design. They feel no responsibility for teaching the sales people how to design, configure and bid, or to help the customer understand the whys, wherefores and advantages of our products.

PART V OF PHASE II - PROJECT MANAGEMENT REPORTING SYSTEM

Our lack of systems for project management devastates interpersonal relationships in getting jobs done. It is believed that any manager can drop any commitment for any project if they

feel there is something else they would rather do, if they do not feel the commitment is in their long term interest, or if a more interesting project comes along.

The second problem is that, too often, what people think to be a commitment was not understood as a commitment. Someone might say they were told about something from another person while passing in the hall, but they would say they never agreed to it.

The third problem is that it is believed Jack Smith's staff will arbitrarily cut projects from the budget within the year without telling or involving the customer for the project.

Because we are a large company with many interdependencies, we need a system which is straightforward. If we sell something to a customer which is dependent on a project, we obviously cannot leave it up to a whim or a misunderstanding. If someone has a product which is dependent on projects done by other groups, they obviously have to be able to trust them without continuously politicking for the group's interest.

In the New Management System, Phase II, we will budget every single project, whether it be approved or unapproved. We will report every week on the effort and dollars spent on every project.

When we have the computer system, we will automatically report to each customer of each project each week. But, until then, we will leave it to the responsibility of the controller doing the work to report to each customer when work stops or changes or starts to fade away. Each month, each project manager will give a status and schedule report of those projects to their customers.

Projects, and budgets for projects, are considered sacred unless they are formally changed.

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OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: PRE HEALD POND WOODS MEETING MATERIAL - MEMO IV

THE SUBJECT OF THIS MEMO IS: UNNATURAL MANAGEMENT

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In starting Digital thirty-four years ago, the motivation was to try to copy the fun, excitement, productivity and creativity experienced at the MIT Computer Laboratory started by Jay Forrester and Bob Everett. The Laboratory was paradoxically a combination of extreme discipline and extreme freedom. There were detailed technical standards which one had to follow exactly to ensure everything fit together. There were methods of doing engineering and documenting projects, and, even in an organization like MIT where people worked strange hours, this Laboratory was expected to work from 8:00 a.m. to 5:00 p.m., every day.

Yet, people had extreme freedom in their projects. They were theirs; they proposed and they did. There was a very critical, academic attitude, but people were free.

Out of this came the basis for modern computing: the mini computer, the PC, interactive computing, realtime computing, and the idea of making very simple logic with very complicated circuits, in a time when all computers were very complicated but had trivial circuits. Out of this group came local area networks, wide area networks, CRTs as we know them today, and many of the software helps to write software.

One might say the Laboratory--and Digital when we tried to follow it--was run in the way we believe our society should be run: great freedom, and yet all the discipline necessary to make the

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society work. We say we believe in the freedom to try many things, to take risks, and to develop and motivate individuals to take responsibility. However, it turns out this is a very unnatural way of managing a country or a business.

The natural way would be for the boss to make all the decisions and tell everyone exactly what to do. Clearly, this is the most efficient way. It saves all the mistakes made by individuals who have freedom, and efficiency is the most important thing because people are always in a hurry to get somewhere.

It is intuitively obvious that farms would be much better run centrally planned than with the randomness of a large number of farmers doing their own thing. Clearly, one could never be successful feeding New York City with random suppliers. Things would be out of control. Obviously, this enterprise could only be done with very thorough planning and control.

It is equally obvious a company cannot be run by individuals; it has to be run by very careful, central planning. So many false starts and so many mistakes are made when individuals are given freedom. All this wasted effort could be avoided if the correct decision is made and followed from the start.

But alas, countries that do central planning and avoid giving smaller groups the freedom to plan and take responsibility have not done well in the modern world. Companies doing top-down management, with very careful central planning and with central decision making, have not kept up with smaller companies that give people the authority, freedom and responsibility to do the work.

Democracies and level organizations who think they have this freedom are always in danger of losing it to staff members who claim to make decisions. This is sometimes even more destructive because there is no responsibility for the decisions imposed on others. At least a king, dictator or chief technical officer in a top-down organization, who makes all the decisions, has the responsibility of living with them. When this is done by individual congressmen, staff members, or central planners, they have often more of the power and authority, but zero responsibility for the results of their decisions.

THE PATRON SAINTS OF DIGITAL

The two patron saints of Digital are MacGregor and Sloan. MacGregor said: "People, given the opportunity and the freedom, really want to work." He did not say they wanted a program of rewards to motivate them to work. He said they really wanted the opportunity to do things that are creative, productive and satisfying.

Sloan said that a company should be broken up into individual businesses. Each one should have the freedom to run the business

and should not be interfered with by the top.

Alas, life is not completely simple and in Sloan's second edition he acknowledges:

"But the fact that there are inconsistencies, and complications, and paradoxes, does not change the result. It is basically what you believe in your heart. If you believe in your heart that everybody must be told what to do and decisions must be made from the smartest people in the company or the most powerful in the company, and you can't trust people to run their own operation, you get one set of results. If you basically believe that people have to have the authority and the responsibility for the part of the operation they plan and run, you get another set of results."

Some writers have observed that Sloan, in spite of his pronouncement, did interfere and did make significant contributions in detailed engineering and marketing to the automobile industry, while preaching non-interference. This does not really change the resulting fact which shows the interest managers should have in the work of a company.

We used to joke about Jay Forrester's management, which we called "post management." He put lots of energy, in very short intervals, on specific projects which eventually gave him the opportunity to know everything that was going on, and for everyone to know him. However, he did not stay long enough to take the feeling of responsibility or freedom away from the people running an operation.

DIGITAL'S FIRST DIVORCE

My partner in starting Digital was Harlan Anderson. We worked well together. He did much of the staff work, but it finally became time for him to take on much of the responsibility. I asked him run a PDP-6 product line. He did not do well and eventually indicated he wanted to be a staff member who had equal authority with me and could go around and tell anyone in the Company what to do. I said: "No, no. You can take any part of the Company. We will break off the Company; we will form a company; we will buy a company; but, whatever you have authority over, you have to have responsibility for." He thought by being one of the founders and working with the Company for a long time (like six years) it was time he had the position of telling others what to do and yet, he should not be responsible for the results. He thought it unfair when I imposed this rule, so he left.

This is still a rule I would like to impose. However, being very unnatural for efficiency's sake, individuals claim authority over everything under them, with poor results. Or, staff members, committee members, or committees claim authority to make decisions for others. The results are often devastating. People

are not always happy, but they will take decisions from the Executive Committee or the Board of Directors because these people have responsibility for the results. People are often frustrated when I do not make decisions for them. I want them to take responsibility for their proposals, plans and decisions, but they would love to have me take the responsibility instead. One time, a personnel manager proposed we start several new committees with our senior managers who would off-load decision making from the Executive Committee. It sounded so reasonable, we tried it. It was a catastrophe. People did not want decisions made for them by committees, regardless of how smart the people were, because they were not responsible for the results.

THE UNNATURAL STATE OF FREEDOM

The history of Digital could be written in terms of back sliding from the state of freedom and responsibility. When we had Product Lines, we ended up with so many we had to combine them into groups. Every time we promoted a Product Line manager to supervise a half dozen or so of the groups, they would invariably say that Ken Olsen could not run one of these, but with their experience, education and brilliance they can run everything themselves. Their first tactic would be to abolish the six groups, make them one, and the manager, alone, would make all the decisions, spend all the money, allocate all the resources, usually with catastrophic results.

When we began doing business in Europe, we did very well in the first countries. It took a while before the managers realized that they were to lay out the plans and the proposals, and to take responsibility for making them work. When they finally learned, we took the best people and used them to form Headquarters in Geneva to run all of Europe. As one might guess, they immediately took absolute control over every decision, every number, every advertisement, every person and every country in Europe. In time, the morale was terrible and the results were poor.

We finally said every country in Europe would be independent and their budgets would be sent directly to the States. They would not be modified, changed or decided upon by Geneva. We sent everyone home from Geneva, cut the staff way down, and the results were fantastic. Since then, the growth in Europe has been much faster than in the States.

Meanwhile, in the States, the management became top down in a very severe way. Staff grew. Freedom was taken away from accounts; more and more regulations, rules and controls were imposed, and sales in the States deteriorated. With the New Management System, we have changed all that. Morale and productivity has picked up and the results are very promising.

In the last years of Gordon Bell, we had an infinite number of

committees--often self appointed, self ruling, self inflicting and self punishing--and we had an arbitrary boss who would kill projects at whim, with the result that we had no products out for five years. Fortunately, good work was done in several places. However, in many places no work was done at all.

We changed this by giving responsibility to groups, and the productivity jumped fantastically. We never turned out so many things with such high morale as in that period of time when we entrusted people to lay out their plans and take responsibility for them.

In those good times, more and more of the planning became centralized. People felt they had little freedom, and they felt the impact of a very strong central control, often by staff without responsibility. Budgets were not stable, but political. There were efficiencies in making decisions, but morale and trust had deteriorated.

Today, our pronouncements on freedom and entrepreneurial opportunity have caught the attention of many people, but they are terrified at the idea, and, in fact, they refuse to become part of one of the traditional Digital operations. They give the same answer the Russian farmer gave when asked if he wanted to become a market driven farm. He said he did not trust them, they would not give him the freedom anyway, and they would take it all away from him.

I receive many notes from people in the Company who would like to exploit their entrepreneurial ideas but see no opportunity, and they do not want the overhead or stifling results of one of the present organizations with their huge staff and all their planning. They could never survive the financial and time strain, and the stifling results of the overhead.

The question before us is: Do we want to formally lay out a way in which we want to run Digital in the future? If so:

- (1) are we going to do top-down planning;
- (2) are we going to do planning by the people with the most influence or the smartest;
- (3) are we going to do it by an infinite number of committees, each of which has no responsibility; or
- (4) are we going to formalize and institutionalize the freedom that makes American farms orders of magnitude more efficient than planned, controlled Russian farms?

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