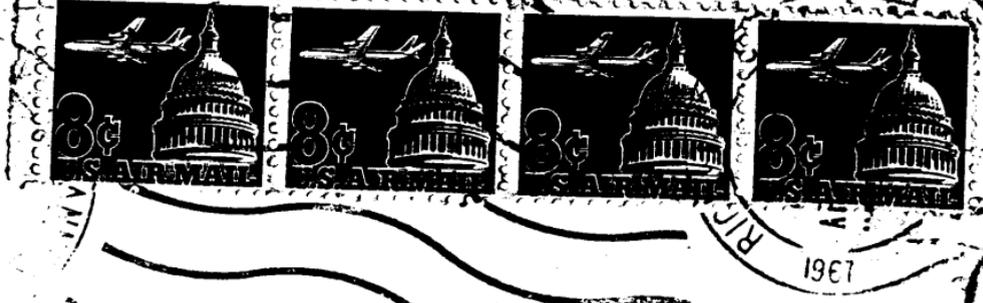


AFTER FIVE DAYS RETURN TO

W.D. Miles
2734 Moyers Road
Richmond, Cal. 94806
ZIP CODE

Via Air Mail

Mr. Lawrence W. Miles
2715 - 29th Street S.E.
Washington, D.C. 20020



April 6, 1967

Dear Dad,

You really inspired me during the last week.
I haven't begun to absorb all the stuff you
left but I did spend quite a bit of time on
the DOD pamphlet. One thing that hit me
between the eyes was how much unnecessary
cost is written into specs. So I struck my
nick out and saved the company \$1,000 this
week (40% on a \$20,000 pump order). I allowed
the fiddlers to bid pumps they were sure wouldn't
meet the specs. And they were right, but this
way we got to put dollars on our spec provision
and we decided to buy the non-spec pumps
and pocket the money. I was eliminating
an investment as well as I could in the meantime,
and my spec still is made at purchasing for
allowing suppliers to bid non-spec. I didn't
explicitly say purchasing was responsible, but I
didn't say no when he jumped to the conclusion
I think my comment will make the most sense
will see when you review my comment.
Attached is first nine pages of your book.
I've marked it up some. Some points are
quite minor but there is a major gap
apparently in my understanding of V4, so you
will see when you review my comment.

if you read the book as printed until you come to some red marks and then read the red marks; then resume reading the print. It seems disjointed if you only read one comment right after another.

I'm excited to find ~~the~~ out whether my comments are really useful to you and to get my thinking straightened out on the one point I take up at a little depth.

Everything great here.

Much love,
Ben

Also find copy of a pamphlet that circulated through the office.

General comments after pp 1-7:

1. On page 4 in ¶ 1-3 it says value is determined by performance AND cost. I read this to mean that performance is part of value. But, going on, I read about a "shift" from performance to value. Do you mean "shift" like from Ford to Chevy or like from low gear to high gear? If I were saying "shift" I'd mean the latter. Matter of fact, I wouldn't say "shift" at all. If you do mean it the way I would; you could build on the fact that you're presenting a real opportunity for the reader to broaden and develop himself. The value engineer is the performance engineer plus — and the reader can get in on the ground floor. Otherwise it appears the reader is supposed to sort of forget what he's been doing and taking pride in.
2. The problem of overcoming "you get what you pay for" is a tough one. Maybe only because I know and love you and unconsciously read into the material, but you sound defensive. I think statements like "while satisfactory performance has been retained" tend to reinforce any prejudices the reader may have. I'd try to avoid them.
3. I'd use care when saying things are "obvious" or "clear". If they aren't truly obvious, either the author or the reader isn't in command of enough facts. When somebody tells me something's obvious, and it isn't at all to me, I conclude he's trying to snow me and can't support his own case.

be maintained primarily by having performance equality and value leadership. This means that more dollars must be committed to identifying unnecessary costs and arranging for their removal and that more competence in the form of people and other resources must be assigned to work on the value, part of product leadership.

Whether a business continues to increase in profitable sales volume or starts to decrease, then drops out of the field is normally governed by the degree to which it recognizes this ~~shift~~ from performance to value emphasis at the right time and by the effectiveness with which it ~~shifts~~ adjusts its use of resources and competence, as compared with its competitors.

EXAMPLE: Kitchen waste is an unavoidable derivative of food preparation and consumption in the normal household. In the early days of civilized living, it was quite common to dispose of this waste by feeding it to pigs, by burying it in the ground, or by employing other simple methods. As the mode of living progressed toward town and city settlements, the problem was solved by organized provisions for garbage collection and removal. Less than half a century ago an awareness developed that there was a need for a better and more sanitary way of handling kitchen waste. Research and development ~~was~~ were implemented to solve the ~~problem and the goal~~ soon became one of reducing the waste, at the ~~location at which it was produced~~, to a form in which it could be directly disposed of.

This effort, which included experimentation with chemicals, with combustion, etc., culminated in the process of grinding the waste into a pulp that could be disposed of in a sewerage system. Thus the research and development stage brought forth today's household garbage disposer.

The original product soon gained users' acceptance, and in the growth stage that followed, refinements were made and the cost was brought down to a level at which the demand was sufficient for profitable production.

In a relatively short space of time, the number of producers of garbage disposers rose from the original one to more than a dozen. The maturity stage was reached, and profitable production of the appliance hinged largely on eliminating unnecessary costs.

Value-oriented Work. It is seen then that the importance of value work effort to provide better value—increases as the complete product cycle advances but that it always follows after the period in which the emphasis is on performance work—concentration to assure performance. New problems come into the picture because men have been hired, trained, and equipped with performance-oriented tools but the job has ~~not~~ become value-oriented. A look at the list of all products which occupy human endeavor shows that there are large areas, such as the military, in which performance-oriented work is of the greatest vitality.

the word is BROADENING

at this point if you could say that the sales leader in disposers has an active V.A. program you'd make the point without such a statement, only the first two stages are covered.

not from the example above.

But, year by year, there is also an expanding list of matured products, and so value work has become of great importance for the successful operation of most businesses.

USE OF VALUE RESOURCES. Performance-oriented work is basically centered on using resources to accomplish new functions which are desired or needed by man. Value-oriented work is aimed at accomplishing these preestablished functions using less of the resources of materials and time. In reality, cost is a measure of the amount of resources expended. Value work, as a study of the use of resources to better advantage, helps to supply more needs of human beings per integer of resources. As such, it is a means of prolonging the prosperity of people by ~~utilizing~~ using resources more efficiently.

In performance-oriented work, test results may cause abrupt changes in the attack in that unexpected directions totally contrary to the initial "feelings" of the researcher or designer may be indicated. In value-oriented work, on the other hand, the absence of test results allows feelings to continue to be a large factor in choosing the engineering and manufacturing alternatives which will establish the value level of the product.

VALUE WORK EXPANDS MARKETS AND JOBS. In the case of many products, the usage, and hence the volume in demand, increases in direct proportion to the lowering of cost; to say it another way, as customers find that they can exchange less of their effort for a particular product, larger and larger numbers will find it practical to do so. For instance, if the minimum cost for the rather complicated device known as the television set were around \$1,000, the market would be much more limited than it is. At its present lower cost, more pleasure is provided for more people, and employment opportunities are multiplied because

The over-all results of the economic endeavor are promoted by the increase in volume that follows with lower cost. Entire industries have been built ~~which~~ very much lower costs have been successively established, while satisfactory performance has been retained. Take, for example, the electric clocks which today appear in many rooms of the home, ~~rather than in our homes in former years~~, or ~~the~~ take the small electric motors which are now found in dozens of products for the home but which, a few years back, were rarities in private surroundings. These developments certainly could not have occurred on the basis of improvement in performance alone. The value has been improved, i.e., unnecessary costs have been eliminated, and the market has expanded, as have the jobs concerned with the production.

ELIMINATION OF HUMAN TOIL. In the area that includes the needs and services which people require and want for necessary daily tasks, much human toil must still be expended. Most of this work, however, can be

I would soften
this to show
because the
reader may
operate this way
and probably
doesn't "readily
see".

Great! This
is breathers:
it shows the
potential but
also implies
the reader isn't
expected to do
this well all
the time.

A key statement
Remember it
because I refer
to it later.

I notice in the following treatment you use
the word "cycle" but then quickly change it to
"stage". I would prefer exclusive use of "stage".

This picture
me the feeling of
Value-oriented
Performance-oriented
are semi-opposed
The message
to here has been
that the value
soul of value
is in fact pure
The point is
performance is
half the story
How about
"Performance-aspect
oriented"?



When I hit the title I didn't know you were talking about national defense. Don't suggest to the reader you're going to help lower costs!

MORE MILITARY MIGHT FOR LESS MONEY

accomplished by machines if only the limitation of their high cost can be eliminated. Effective value-oriented work in sufficient magnitude will bring the cost down, and equipment that eliminates tedious and difficult tasks will come into much greater use. A good example is the home laundry machine, which has been such a boon to millions.

Adequate defense of a nation relies heavily on research and development to provide new functions more efficiently. This has been long recognized. But now it is becoming equally apparent that it also relies on effective and efficient value-oriented practices to identify and remove unnecessary costs so that adequate weapons will be available at less than bankrupting cost. An essential defense weapon eliminated by high cost lowers the country's military capacity, and the matter of reducing costs is one of national importance.

1-4 Considerations for Improving Value

As the twofold job of providing the performance the customer wants and of doing so at an appropriate cost makes progress through the product cycle from the research and development stage into the maturity stage, a number of factors are responsible for continued inclusion of unnecessary cost in the product. Some of these will be evident in the discussion which follows.

Who Contributes Performance and Value? Each individual involved in bringing forth a product contributes toward attaining the performance needed, and each must also, in his own area, contribute to the value of the product.

Beginning with the sales department, a representative contacts the customer and, by some means, learns what the customer wishes to buy and is willing to pay to get it. By stepping beyond the act of merely booking orders and giving the customer the benefit of his knowledge and experience, the sales representative can do a great deal toward attaining suitable performance combined with attractive value.

The design engineer next provides geometry and detail for the device. This establishes means for attaining the predetermined use and esteem values. In this endeavor, more than one useful solution commonly emerges before final selection. Decision making by the designer, therefore, requires much evaluation to arrive at the best combination of performance and value for the particular use.

Then, it becomes the task of the production engineer and the manufacturing expert to provide the tooling and facilities that will be most efficient for making the product. This takes an exhaustive review of both in-plant and outside equipment and practices to make a selection that will ensure the appropriate value content of the product. Usually this

best combination of performance and COST.

stage merges considerably with the previous stage so that the intended means of manufacture will be factored into design-detail decisions.

Finally, the management of the shop that actually builds the product must give the fullest consideration to all the elements that enter into the cost of production. This includes the very substantial element of materials, in the acquisition of which the purchasing department usually has an opportunity to make a significant contribution toward attaining a better value status.

The decisions of each of these various participants determine the degree to which the customer will be provided with the desired use and esteem values at the lowest cost. It will be seen that unnecessary cost is identified only to the degree that these participants secure the best ideas, the best information, and the best utilization of value possibilities—each in his own area.

Incorporation of Full Information at Each Stage. In each of the stages of the product cycle, it is readily discernible that, somewhere in the market, information exists which will aid in reliably accomplishing the function at the lowest cost. Such information is pertinent to the decisions being made and, if passed up, cannot be appropriately factored into the decision. It follows that extra cost enters in at each stage in which there is a lack of consideration of any applicable information.

Effect of Time Shortage. It seems the way of life that time is short. This is particularly true in the cycle of a product. Until a particular need appears, at least in an undeveloped form, people in the sales area have no way of sensing their customers' requirements. Then when a need arises, there is a rush to provide a proposal to satisfy the need and to do so effectively as quickly as possible, before competition has a chance to gain a hold on it. As the product then moves into the design-engineering area, deadlines must often be met which definitely do not permit complete searching, testing, and securing and utilizing information which would result in accomplishing customer use at the lowest cost. The same situation exists in purchasing, in manufacturing, and in all other areas of the business. Thus a shortage of time, by the very nature of the problem, is the cause of inclusion of unnecessary costs.

Lack of Measurement in Value Work. As emphasized previously, decision making in performance-oriented work can be based on tests and measurements. In contrast, value-oriented work at each stage of the product design and manufacturing cycle cannot be accurately measured. Therefore, after what the individual considers a reasonable effort using the value tools and the time and information he has, decisions are made by judgment with respect to the manufacturing and engineering alternatives. Again it is seen that, if any of these decisions bring about poor performance, tests will show it. If, on the other hand, they bring poor value,

Great. I prefer to see "opportunities" pointed out to be told what I "must do".

Note that you are now talking about one cycle composed of three stages. Good.

I think this paragraph is beautiful. Very nice and human real. I'd start section 1-4 with it.

See yellow paper attached.

There is a... I'd say

I guess we need to discuss philosophy - I don't seem to have the basic idea. My view is that there is a spectrum of value - from outstanding value to prohibitively poor value. Where a given product or service is in this spectrum depends on two factors: how well does it do the job and what does it cost. (I'm talking about the total job, i.e. esteem as well as use.) Therefore, my conclusion is that any person who works on it does in fact determine in part its value.

Anyone who finalizes a part of it has determined the value of that part. He has not only finalized its ability to perform but he has also finalized what it costs. The statement "each individual... contribute toward... the performance needed, and each must also... contribute to the value..." doesn't jibe with my conception. I think he has contributed to the value. (Of course his contribution may be toward poor value.)

The reason I'd like to get straightened out on this point is this:

If there are two jobs here is the way I would view them (at the feeling level):

Job 1. The performance man. Let's do this job

without a lot of fooling around and get on to developing other profitable products or services. When you feel like you're spinning your wheels, make a decision and get on the next step. Don't waste your own time on research - that's what we have specialists and PhD's for.

Job 2. The cost reduction man. This guy's the head-hunter, the efficiency expert, the time and motion study man. He's great with clipboard, stopwatch, organization chart, material flow diagrams - but he doesn't know a damn thing about my business. He couldn't do half the real work I do.

I believe that viewing VE as an entirely different job introduces a polarization that can have only harmful effects. Obviously (I think) this fierce competition is not your goal. Furthermore, if people are permitted even unconsciously to conclude that a VE is a cost reduction man you may wind up trying to reason them out of a position they didn't get reasoned into.

Let me know how you see this. If it really is two jobs, I need definitions.

check, we don't think that another penny can be taken out of the cost but we're desperate."

In applying the value analysis approach to the device, one of the first parts to come up for review was a wire clip which held the cover on. It was made of phosphor bronze and cost \$7,000 a year. The value specialist asked, "What is the function? How does phosphor bronze contribute to that function? It is a material that is commonly used when a part has to flex millions of times. But this clip is flexed only when the cover is removed for servicing—an average of six times in the life of the product."

By changing to spring brass, the same job could be done for \$3,000 a year, that is, for less than half.

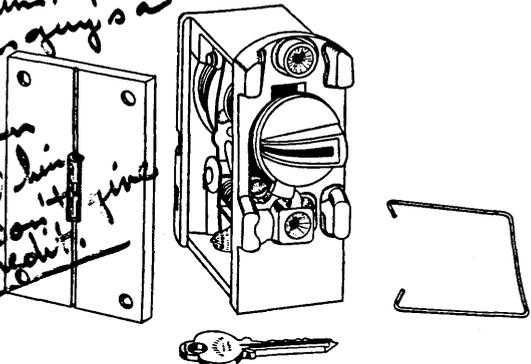


FIG. 1-1. Temperature control.

The cover itself cost 4 cents, an expenditure of \$40,000 a year. Its function was to keep extraneous material out of the small mechanism. The entire control was mounted inside another enclosure. Using a plain piece of laminated plastic reduced the cost from 4 cents to 1.5 cents each, and out went \$25,000. Many similar findings were made as the analysis of the complete device proceeded.

The new approach, applied after conventional cost-reduction treatment, eliminated obvious, but hidden, amounts of unnecessary costs. No essential function was impaired, no "cheapening" was effected. The product was modified to represent better value.

Minimum Reduction in Quality, Safety, Features, Attractiveness. Inherent in the philosophy of value analysis is full retention for the customer of the usefulness and esteem features of the product. Identifying and removing unnecessary cost, and thus improving value, must be done without reducing in the slightest degree quality, safety, life, reliability, dependability,

At this point somebody must have agreed with him. Who was it? This guy's a goer. He knows a good thing when he sees it. Put him out the back. Don't give the VE all the credit. So what?

See Below

Making a statement affirmative. It sounds defensive.

This implies the use function of the cover wasn't important anyway, so it wouldn't matter whether you "cheapen" it or not.

and the features and attractiveness that the customer wants. Too often in the past, an endeavor to remove cost without the use of professional tools for accomplishing the project has resulted in a lowering of quality. Therefore, it must be clearly understood from the start that accomplishing better value does not mean reducing quality to a point where it is lower but may just get by. No reduction whatever in needed quality is tolerated in the professional grade of value work.

Experience shows that quality is frequently increased as the result of developing alternatives for the accomplishment of the use and esteem functions.

1-2. What Is Value?

This sounds like a hedge. Read last line on preceding page.

Value means a great many things to a great many people because the term value is used in a variety of ways. Also, it is often confused with cost and with price.

In most cases, value to the producer means something different from value to the user. Furthermore, the same item may have differing value to the customer depending upon the time, the place, and the use.

Value, then, is a broad term. It can, however, be divided into various kinds, each of which is describable. It is often divided into four kinds, which are here listed. Useful to us in value studies are the first two.

- 3. Use value: The properties and qualities which accomplish a use, work, or service
- 1. Esteem value: The properties, features, or attractiveness which cause us to want to own it
- 4. Cost value: The sum of labor, material, and various other costs required to produce it
- 2. Exchange value: Its properties or qualities which enable us to exchange it for something else we want

Value is not inherent but is determined by a number of things. To be useful in identifying and eliminating unnecessary cost, value becomes a measure of the appropriateness of the costs involved. Value is stated as the minimum dollars which must be expended in purchasing or manufacturing a product to create the appropriate use and esteem factors.

Value of a product may be considered the appropriate cost to accomplish the use and to provide the proper esteem. We are concerned with use value as the lowest cost of providing for the reliable performance of a function and with esteem value as the lowest cost of providing the appearance, attractiveness, and features which the customer wants.

I think this would have a more impact after the experience is stated. Save some so you can be through of clear examples the reader does it himself.

Excellent I like it.

The tone of this paragraph suggests the "professional", very expert people, can apply. Do you intend to convey this impression?

General comment after pp 1-3:

I get the feeling the author assumes I am hostile. I don't want it crammed down my throat. Ease up a little and give me some breathing room.

I believe in stating the meat first and so I like your beginning. I also think it could be made more conversational. Try dictating the ideas contained, or think back on your first statements when presenting verbally.

Pretty aggressive start, but let's go.

CHAPTER 1 Value Analysis—Philosophies, Concepts, Basic Steps, Approach

1-1. What Is Value Analysis?

Value analysis is a philosophy implemented by the use of a specific set of techniques, a body of knowledge, and a group of learned skills. It is an organized creative approach which has for its purpose the efficient identification of unnecessary cost, i.e., cost which provides neither quality nor use nor life nor appearance nor customer features.

Value analysis results in the orderly utilization of alternative materials, newer processes, and abilities of specialized suppliers. It focuses engineering, manufacturing, and purchasing attention on one objective—equivalent performance for lower cost. Having this focus, it provides step-by-step procedures for accomplishing its objective efficiently and with assurance.

Value analysis serves all branches of an enterprise: engineering, manufacturing, procurement, marketing, management. It results in the development of applicable specific information from the practically limitless stores of industrial technical information and skill for use in providing better value, i.e., lower costs, for appropriate products and services.

Value analysis is not a substitute for conventional cost-reduction work methods. Rather, it is a potent and completely different procedure for accomplishing far greater results. It improves the effectiveness of work that has been conventionally performed over the years, as it fills in blind spots. Quite commonly, 15 to 25 per cent, and very often much more, of manufacturing costs can be removed by effective application of the teachings of value analysis.

EXAMPLE: A typical simple example of the latter statement is the case of an electrical control. It worked very well indeed, but its cost was too high. Sales had dropped off. ~~The makers brought the control in for value analysis with a statement which said, "We give you this with tongue in~~

I would try to refer to and quote people in a complimentary way the first time I did it. On the whole, 10 compliments to 1 insult might be ok

I would try to avoid even remotely thinking suggesting that some people may think there is a relationship between VA and "conventional cost-reduction work"