

Sunday morning 4 29 73

Good Morning Bill;

Thank you for filling me in on the audio-visual plan.

I'll send the "Instant Thinking" that comes to me. If more basic thoughts develop on the overall program, they can be communicated later.

Your "Brush with History" is factual, in so far as Miles, Sredenschek and Fountain are concerned. I like the easy to-listen-to story approach.

Perhaps OK, but not so factual is the part beginning "In 1960 it rose ---- re-named VE - McNamara"

FACTUAL Sometime between 52 and 54 (and I could dig out the papers with dates) Adm. Leggett, chief of the bureau of ships, had us come to Wash. and, as you say, start training.

Other facts : Adm Legett knew that a "Newcomer" could not survive in the chill environment, so he had it report to him for the first few years while it developed strength understanding and support.

He was determined to put the technique system to work, but there were no established positions in the navy for "Value Analysts". As contrasted, it was well established that all kinds of "Engineering" was required, and it was routine to have "Various and Sundry 'Engineers'" thruout the organizations. So, by calling the system Value Engineering techniques, he could go ahead and implement it without the long process of getting positions set up for "Analysts".

As you indicate, the Navy then decided that they could not benefit by the great potential of VE unless Navy suppliers and contractors knew about it and used it. So the Navy put training courses on for their contractors. At first we helped, then they carried the whole ball.

Years went by. Startling, even shocking benefits occasionally jumped forth. But negativism, in govt and industry, choked away at it. In this environment the idea of incentives arose and struggled for years, with assorted trials and great opposition.

Finally there coincided two vital situations:

1. The incentive idea was no longer a stranger. The wording of contracts had been hammered out with thousands of hours of work, and were pretty good.
2. Secy McNamara was a business man, and himself believed that waste dollars in military should be minimized.

Change the name of Mr Fountain from Ray to Roy.

Good success to you,

Larry

(more over)

Addition to letter of 4 29 73

On another matter I'll comment.

If I were doing it I would use a somewhat more modern Job plan, which experience during the past 10 years shows helps to get at the very hard problems better.

But, beyond a doubt the person who is writing the script is more familiar with the old one, and may do a better job of writing up this vital part if he can stick to what is familiar to him. So - use this comment only if it helps.

A small correction - At bottom of page 3 probably alternative seeking would be better than alternate seeking.

You might find some specific thoughts and wording in the answers to the 50 questions which I sent you a couple of days ago, which would help in specific areas.

Also, in order to make it simpler for teachers who, themselves, are not skilled in the complete VA system, to do a good job of complete teaching, I prepared an inclusive set of questions, or the basis for a course of study for the new text-book. I just got them yesterday. You get the first copy. Maybe there is something in it which will help in your task.

Larry

TITLE: WHAT IS VALUE ANALYSIS/ENGINEERING?

VERSION: #1

439

DUE DATE: May 7, 1972

PRODUCER: VCI, Inc, Mpls period

VIDEO

AUDIO

Dear Larry

This is a first-cut at an Audio Visual Tape Cassette which is part of a period SAVE hopes to produce in order to provide the VE field with members and anyone else entering the field who want to improve their seminars. Before the final text is approved I want your comments. (Time is short so please get back to me by May 5. I've attached a list of other proposed cassettes. I'd also like your suggestions on additions or deletions. Be sure to see these tapes at the conference with greatest attention. Bill Dean

(CREATION MUSIC, ESTABLISH, THEN UNDER FOR ANNOUNCER)

ANNOUNCER:

In the beginning was Value Analysis! Conceived by Lawrence E. Miles, born in General Electric Purchasing Department, praised by the Navy Bureau of Ships, suffered under many Dog and Pony Shows and was nearly crucified by resistance to change. In 1960, it rose from these doldrums and accended into the Department of Defense where it was re-named Value Engineering and sat at the right hand of Secretary McNamara. It was offered to defense contractors, who obeyed it, in name, but was often denounced by the sacred contracting officer.

In 1964, a new "sharing" commandment was written. Now a vision of golden savings and profit was truly seen, and the Gospel of Value Engineering began to spread throughout all the land.

Thus endeth the reading of today's lesson!

VISUAL #1
EARLY BEGINNING
VE RISING OUT OF THE PRIMEVIL

VISUAL #2
PENTAGON, IN SKY

MOSES AND TABLET: THOU
SHALT SHARE SAVINGS

IN BLACK OR CHAR.
GENERATOR??

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1. SAVE VISUAL
2. PRESENTS
3. VALUE ANALYSIS SEMINAR SERIES
4. PART I
5. WHAT IS VALUE ANALYSIS?

SAVE, THE SOCIETY OF AMERICAN VALUE ENGINEERS, PRESENTS A
 VALUE ANALYSIS SEMINAR SERIES, PART I

WHAT IS VALUE ANALYSIS?

Hi, I'm your narrator, speaking on behalf of the Society of American Value Engineers. It is their purpose, through this media, to provide you with a series of VE Seminar training aides to help develop or enhance your VE program. This is the first in the Series. Our opening may have caused you to chuckle a little. It was meant to. However, there's a very serious side to how this whole Value Analysis thing developed and has come of age. In this first program, you'll hear what Value Analysis is, how it was born, and how it has become a most important tool for improving the value, competitive posture and economic health of our nation's industries and institutions.

First, then, what is Value Analysis?

Before we answer that, perhaps we should take a look at the conditions under which Value Analysis emerged.

World War II is just ended. A free-enterprise nation has just proven its will to survive all-out war. America is now facing new challenges. The future of the nation now depends on its ability to produce the necessities of a good life. The physical threat had tensed every nerve fiber for the fight. Every resource was willingly spent just to be the survivor.

But now that the physical threat is gone, our level of existence, as always, depends on the cost effectiveness

OLD NEWS REEL FILM OR NEWS-PAPER PHOTO MONTAGE OF PERIOD.

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LARRY'S PICTURE AND WORD
VALUE ANALYSIS

CARTOON-DESK

SUPER: FUNCTION?

WIPE FUNCTION ANALYSIS
ALTERNATIVE SEEKING

of our productivity. This basic economic fact, even though sometimes overlooked, is the only solution to long range survival.

It was in this environment of readjustment that America found itself in the mid-1940's. We once again, needed to concern ourselves with how to squeeze the most output from every pound of raw material, and every hour of labor.

It was this reconstruction need that gave rise to the first, formally defined discipline and technique, specifically structured for the practice of organized Value Improvement. It was named by its founder Lawrence D. Miles, "Value Analysis".

In those years immediately following World War II, Larry Miles was purchasing products and materials, and trying to implement a Cost Reduction Program for the General Electric Company of Schenectady, New York. In this capacity, he believed that if he had a clear understanding of the basic function of the items being bought, he should be able to take advantage of technology and competition to buy equal or superior items for less cost.

Encouraged by his Boss, Bill Sredenchek, Mr. Miles developed the basic steps and plan for Function Analysis and creative alternate seeking the heart of the system that became Value Analysis. His success in significantly reducing cost was

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VALUE ANALYSIS

CARTOON- GE TO NAVY

2 OR 3 CARTOONS. AIR FORCE,
ARMY, ETC.

SHOW ENGINEERS, SLIDE RULES

"VALUE ENGINEERING SECTION"

both immediate and revealing.

Because the Navy's Ship System Command, then called the Bureau-of-Ships, was using General Electric products, they learned of his approach and the results. In the early 1950's they asked General Electric if they could borrow Mr. Miles, in order to instruct key Navy personnel in his concept and techniques. With the help of his Boss, Bill Sredenchek, G. E. complied, and Larry Miles and Ray Fountain, a member of his staff, were dispatched to the Navy where Value Analysis again proved its worth by significantly reducing the cost of several ships under construction. (Incidentally, for his part in making VA available to the world, Bill Sredenchek recently won the Society of American Value Engineers "Management Involvement" Award.)

Wordspread, and Mr. Miles, and his staff soon, found themselves busy indeed instructing other branches of the Armed Services in the use of his Value Analysis techniques.

Because of its excellent application to product design and its earliest use by Product Designers and Engineers, and because of the prestige of engineers in the 50's and 60's, Value Analysis also became equally well known as Value Engineering.

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BACK TO NARRATOR
CHRCMA KEY --
BOB MCNAMARA

Robert

CARTOON-PEOPLE AT BIDDERS
CONFERENCE. SAYING "VALUE
ENGINEERING".

CARTOON?

PILE OF REGULATIONS

By the early 1960's, ~~Bob McNamara had become Secretary of Defense, and~~ our race for defense superiority was in full swing.

As a result, defense costs began to spiral, and Secretary McNamara, realizing the need for increased funds became a great proponent of Cost Reduction. "More Bang for the Buck", became a DoD slogan. He was persuaded by Value Engineers that the techniques might yield even greater results if they were also used by Defense Contractors who produced the bulk of the nations Defense hardware.

Because of this urging by the Department of Defense, Value Engineering became a "buzz-word" in Defense Industries who were accustomed to doing what the nation's biggest customer seemed to want.

It turned out, however, that many contractors paid Value Engineering only lip-service. This came about because contract types then in use there had little incentive for a contractor to save money. The major effect of reduced cost was to reduce his contract value and, therefore, his sales volume. Contractors also found considerable resistance to change within their own ranks.

In 1964, however, DoD prepared an Armed Services Procurement Regulation which allowed contractors to keep a small share of any savings from their Value Engineering ideas if they resulted in price changes to their contracts. This sharing

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VISUAL SHOWING SHARING

also applied to future items bought by the Government for a period of up to 3 years. This provision really turned-on some of the contractors, because they found that they could add substantially to their profit, even though they reduced contract costs. Better still, it saved the Government millions of dollars as well.

Accumulated Value Engineering savings to the Department of Defense since 1965 have nearly reached the 1/2 billion dollar mark, and some contractors have individually added as much as \$5 million to their profits in a single year. These results clearly prove the worth of the organized approach and, in this case, the mutual benefits of saving cost as well.

COMMERCIAL, GOVERNMENT,
HOSPITALS, CITIES
(WORK WITH THIS ONE)

With this help from DoD, the use of Value Analysis techniques spread more rapidly, *into all types of industry & institutions,* until they are now used by enterpreneurs in nearly every area, where products or services compete for the sales to, or satisfaction of, a user. In spite of much early resistance, DoD played a major role in spreading the Value Engineering gospel.

MAN WATCHING VOLKWAGONS BEING
IMPORTED

The competitive squeeze, however, continues to tighten, one of our most urgent problems today, is that of maintaining productivity and cost levels that can compete with other nations of the world. So we must continue to improve our output and the value of both our products and our services.

What, then, is Value Analysis or Value Engineering today?
And how can it help each of us better solve our particular

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BEN FRANKLIN
POSSIBLE EDIT

economic problems.

Perhaps it can be compared with rediscovery of Ben Franklin's principle that "a penny saved is a penny earned". This phrase, which has become such a part of our folklore, was borne out of considerable insight, but it seems to need periodic rediscovery. A current definition of Value Analysis reflecting Franklin's adage is one found in the text book written by its founder, Larry Miles.

DEFINITIONS
CRAWL-CORNER LARRY MILES

"Value Analysis is a problem-solving system implemented by a specific set of techniques, a body of knowledge and a group of learned skills. It is a organized creative approach that has, for its purpose, the efficient identification of unnecessary costs. Costs that provide neither qualify, nor use, nor life, nor appearance, nor customer features".

WORK UP

Another useful definition in common use today, is:

"Value Analysis is an organized and systematic approach for achieving only necessary functions at the least overall cost without imparing required performance quality or reliability".

Organized systems of problem solving are not new. They are as old as society itself. Organization and cooperative effort was the means by which man first emerged on his path of civilization. Neither is cost reduction new! It has been practiced, to some degree, since the beginning of the Industrial Revolution. But, Value Analysis, was new because

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it used an organized approach to beget optimum Cost Reduction!

The thing which makes Value Analysis unique is the way it employs proven techniques in a systematic work plan, to focus attention on the cost of functions rather than on the cost of objects. It then applies creative techniques for finding as many alternative solutions as possible, which meet the necessary functions. Next it measures the performance and cost of these alternatives, until the lowest cost, practical solutions can be identified.

The questions it asks are; not just "What is it?", but "What must it do?", "What does it cost now?" "What else will do the job?" and "What will that cost?"

Gears for example, are objects which can be produced in many ways. They can be cast, hobbled, shaped, die cast or molded. The way they are made and what they are made of will determine the lowest manufacturing cost for a particular gear. The function of a gear, however, is to Transfer-Torque and, generally, to change-angular velocity. These are simple verb-noun function definitions. Using them, however, opens the door for creative alternatives of a much broader scope-for other ways to Transfer-Torque. "v" belts, chains and sprockets, friction discs, cranks and crank arms, also transfer-torque. So may magnetic clutches, motor-

PICTURE OF MANY GEARS.

SLIDE

VISUAL
MAKE
WORKING

TAKE PICTURES OF ALL THEM,
OR HAVE CARTOON MADE

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COME BACK TO WORKING MODEL

generators, solenoids, hydraulic systems and a host of other mechanisms. One of these will provide the necessary functions at lowest cost. Only careful analysis will determine which is the most cost effective solution. It may or may not be a pair of gears.

CHART WITH SPOKES

Value Analysis is really an organized system of work steps, applied to a Function-Cost objective. The Value Analysis approach is often called Value Engineering when it is applied to Engineering tasks, Administrative Value Analysis when applied to Organization or Management function analysis; Software Value Analysis, when applied to paperwork systems or computer programming. Names may be created for any special Function-Cost objectives.

But Value Analysis is the working tool, when the essential value objective has been identified. The total Program might appropriately be called a system for Objective Value Assurance.

JOB PLAN (IN BOOK) CHART FROM MANUAL

The organized steps that Value Analysis employs, purposely avoids being limited to an inflexible set of rules, but rather makes use of any disciplines, forms, symbols or manipulations that might prove useful within its logical sequence of analytical work steps which are called a "Job Plan". This Job Plan is roughly analogous to the familiar system of Scientific Problem Solving.

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The number of steps in the Value Analysis Job Plan may vary, according to a users need for convenient increments of concentration. An acceptable Job Plan should, however, contain the following:

1. Gathering necessary information *and*
- ~~2~~ 2. Defining functions
- ~~3~~ 3 ~~4~~. Creatively speculating on alternatives
- ~~4~~ 4 ~~5~~. Evaluating those alternatives
- ~~5~~ 5 ~~6~~. Executing the selected altenatives, and
- ~~6~~ 6 ~~7~~. Reporting, selling and implementing proposed solutions

Each step in this plan contains as many specific techniques or disciplines as may be needed to give visibility and integrity to the final proposed solutions. The number of steps may be increased by identifying, in finer detail, the sub-steps within those shown. New techniques for attacking the Cost/Function relationship are periodically being developed. You may be the one to make the next major contribution!

The Job Plan and the many possible techniques employed by Value Analysts require in-depth familiarity and understanding. For that reason, they will be covered more completely in a separate part of these Value Analysis Seminar Series.

REWORKED AND EXPAND

BILL DEAN BACK ON

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In summary, Value Analysis is a system consisting of three things: First, it is a philosophy!-a concern for optimum cost effectiveness to which the user must be committed. Second, it is an organized Job Plan within which proven techniques can be used, and finally, Value Analysis is the technique or tool. But it must be professionally understood and practiced.

Using these three ingredients expertly, will certainly help our nation's government, industries, our institutions meet today's real needs. It will help our nation meet world competition through a stable, healthy economy, and most important of all, it can help you meet your economic objectives more effectively!

END

SUGGESTED VE VIDEO CASSETTS

I. MANAGEMENT SERIES

Est. 1 Hr. 40 Min. Total

1. Value Analysis & Value Engineering for Management Est. 20 Minutes
(an overview of VA/VE and the significant achievement it adds to any organizations cost improvement program)
2. Value Analysis of Administrative & Management Functions Est. 30 Minutes
(a truly effective, across-the-board application of Value Analysis to the non-product functions of any organization) - Est. 2 sections, 15 minutes each.
3. Managements View of Value Analysis Est. 50 Minutes
(selected Top Management testimony on the viable returns from a properly executed VA program)
 - a. Defense Industry Applications - Est. 10 Minutes
 - b. Commercial Industry Applications - Est. 10 Minutes
 - c. Building & Construction Industry Applications - Est. 10 Minutes
 - d. Institutional Applications - Est. 10 Minutes
 - e. Governmental Bodies Applications - Est. 10 Minutes

II. SEMINAR TRAINING SERIES

Est. 2 Hrs. 45 Min. Total

- A. General & Introductory Est. 45 Minutes
 1. Techniques for Teaching Value Analysis/Engineering
(a collection of ideas from experienced professionals on effective VA/VE seminar training techniques) - 20 Minutes
 2. Introduction to Value Analysis/Value Engineering
(a short history of VA/VE and an introduction to Function/Cost/Value/Worth Analysis) - 15 Minutes
 3. Environment & Mind Setting - 10 Minutes

IIB. SEMINAR MATERIAL

Est. 2 Hrs.

1. The Job Plan - 5 Minutes
2. The Information Phase - 45 Minutes
 - a. Purpose, content and format - 15 Minutes
 - b. Functions, What are they? - 10 Minutes
 - c. FAST Diagramming (supplement) - 20 Minutes
3. The Speculation Phase - 1 Hour
 - a. Purpose, content, and format - 10 Minutes
 - ✓ b. Turning on creativity - 10 Minutes
 - c. Techniques of creativity - 20 Minutes
 - d. Creative workshop - 20 Minutes

4. The Planning & Execution Phase - 20 Minutes
(Purpose, content, and format)

5. The Reporting Phase - 25 Minutes
 - a. Who to, when and why - 5 Minutes
 - b. The Oral report - 10 Minutes
 - c. The Written report. - 10 Minutes

6. The Implementation Phase - 15 Minutes
(How to Plan and Track Idea
Implementation)

III. SUPPLEMENTS

1. Integrated Value Assurance Programs and Their Structure
2. VA/VE for the Building Trades
3. More on Creativity
4. More on Human Relations