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Contributions to Value World are welcome; please send them to Value World Editors, 220 N. Story Rd., Suite 114, Irving, Texas, 75061. Editorial changes and publication of an article or other contribution in any particular issue are at the discretion of the Editorial Staff. All material for Value World must be received on the 1st of the month preceding publication (i.e. September 1st for Oct./Dec. issue).

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VALUE FOR YOU!

1983 SAVE INTERNATIONAL CONFERENCE
Holiday Inn - O'Hare Kennedy
Chicago, Illinois
May 22-25, 1983

THE APPROACH
There will be four modes of presentation designed to offer “VALUE FOR YOU”:
- Papers - presentations on new and unique techniques and experiences to help you expand your knowledge base.
- Panels - groups of experts discussing topical subjects, interacting with you, the audience.
- Class Lectures - educational sessions structured to teach new concepts and techniques in an academic environment.
- Seminars - learning by doing in team building workshops guided by experts in the field.

CONTINUING PROGRAMS:
- Purchasing
- Construction
- Creativity-The Human Mind
- International Environment
- Finance/Marketing
- Value Analysis Workshop
- Value Analysis Fundamentals
- DOD Developments
- V.E. in Education
- V.E. Applications

NEW PROGRAMS:
- The Spectrum of V.E. Activities - exposing the wide range of styles and emphasis being used
- Outreach to Other Worlds - to enhance our effectiveness
- Video Tapes of Successful V.E. Studies
- Team Dynamics - The unmeasured factor
- Management “Pulling” Systems - to insure program survival

VALUE FOR YOU!!
For The Value Practitioner - The Value Manager
The International Environment
-Purchasing-
-Industry-
-Construction-
-Government-

SPOTLIGHT ON A NEW PROGRAM - OUTREACH — OTHER WORLDS

We all know that Value Engineering has potential applications in a wide variety of fields. In these same fields, there are many non-VE people having great success with other creative and human relations skills. Perhaps these skills might be integrated into your VE program. And we all have a common thread; helping people grow by developing and using their human relations skills and creative abilities.

Plans for the 1983 Conference include a group of sessions and workshops under the general heading, Outreach - Other Worlds. In the spirit of the conference theme, VALUE FOR YOU, we are expanding our Call for Papers to include these options. We are contacting people both inside and outside the VE discipline for papers, workshops and panel discussions in such subjects as group dynamics, new techniques in the creative process, assertiveness skills, alternatives to or within the creative process and negotiating skills useful in securing management support for creative endeavors. These alternatives can be doors opening into new areas for your personal and professional growth.

If you are interested in contributing to the effort, or if you know of qualified people who might, please contact Don Lenef, Stephens Adamson, Ridgeway Avenue, Aurora, Illinois, 60507; Phone (312) 892-4311.

* * * *

The above advance programming is subject to change. It presents a preview of an information filled technical program which will include internationally noted speakers from throughout the world.

A more complete Technical Program will be published as it becomes available.
Generally when novices enter the field of Value Analysis (VA) they are in one of two categories. They could either be joining a well-established value organization/program or a company that has no value program at all. Most likely those in the second case must also organize and implement a value program.

In researching the Value methodology, the novice will quickly find that all workshops, seminars, and literature stress the need for team effort. In fact one gets the feeling that unless task teams are formed, VA will not succeed. Although the team effort is the ideal situation, the unfortunate truth is that many novices are not only saddled with the job of “doing it themselves”. This paper is directed to those individuals and will attempt to give some insight to the organization, job task and implementation of a one-person value program.

To begin with, it is essential that the person in charge of the VA/E activity make the assumption that the activity will never be larger than the one person operation. This will save a lot of aggravation and allow the individual to get to the business at hand. All too often time and energy are spent on things that will never be. The analyst must go on to the real situation and proceed from there.

Where does a one-person activity best fit? There are two key areas where this type of activity would be best suited. First of all is Purchasing. Purchasing, as we all know, was the original spring-board for the VA activity. Unfortunately, the only Purchasing activity in value work seems to be in trade journals in the form of articles. Purchasing has many positive aspects for the VA activity. The Value Analyst would have access to a large network of vendors. These vendors are the specialists in various commodities, which is a key ingredient in the VA methodology. In addition to having good accessibility to vendors, the Value Analyst will find a wealth of cost information, which is not available in other areas. Finally, Purchasing controls the majority of the company’s expenditures, therefore, the potential for cost savings is higher.

The other desirable area for the VA/E activity is in Manufacturing Engineering. This is probably the best overall area in which an individual can be educated in the design and process of a product. The very nature of the job is to find better ways of accomplishing desired functions and increase productivity, efficiency, etc. For this reason alone, VA would find a welcomed home.

However, regardless of what area the individual reports to, there must be support and assistance from all the other functional areas. The Value Analyst should have an open channel of communications with Production, Accounting, Engineering, Purchasing, Quality, etc. It is obvious then, that the Value Analyst must be a diplomat. In fact a requisite for such a position would be the ability to work well with others. Although there are many who state that the requirement applies to all, it is critical here, if the program is to survive.

How should the Value Analyst perform to maximize his effort? When only one person is responsible for the value activity, it is essential that all time and energy expended be used to its utmost. There are a number of ways to select and study projects. These various techniques should compensate the individual for the lack of a task team and are defined as:

Traditional Approach

Without the formation of a full time task team, the individual can conduct a VA study in the traditional manner. Using this technique the individual must use extreme caution to investigate all avenues for information and alternatives. The Value Analyst begins by gathering the necessary information on the project for the Information Phase. As the data collection is in progress, the analyst must scrutinize and verify all the information since there will be no “checks and balances” as is the case with the formal task team.

The second part of the Information Phase is the definition and classification of functions. The analyst must now contact individuals that use or are responsible for the project item. The analyst should define and classify the functions prior to meeting with the “experts”. This will prepare him for a more in-depth discussion with the responsible party. In a one-man value study, the proper function definition becomes one of the most critical items, since again there are no “checks and balances”.

Entering into the Speculation Phase the analyst must rely on additional assistance. Experience shows that the effectiveness of creativity is directly proportional to the number of participants. First the analyst must decide what functions should be evaluated and then prepare a list of the functions in the “In What Ways Might We” format. At this point a one to one-and-a-half hour brainstorming session should be planned. Most people are willing to
give up an hour or so of time for someone's project, so participation should not be a problem. In the selection of the participants, the analyst should look for individuals who are open-minded and would feel at ease in a brainstorming session. Too often the individuals selected are familiar with the project but not receptive to new ideas or are uncomfortable with the idea of a brainstorming session. These individuals must be avoided, as they will tend to stifle the needed creativity.

Once the selection of the "Creativity Team" has been made, send each participant the list of functions in the "In What Ways Might We" format. This will allow the incubation process to begin. During the session, no more than ten minutes should be spent per function and every attempt must be made to eliminate interruptions while the session is in progress.

Armed with a list of ideas, the analyst is now ready to enter the Evaluation Phase. This phase is certainly the most difficult for the one-man VA study. The analyst must concentrate to keep an open mind when evaluating the ideas. Input from in-house experts and outside specialists is a must for him. When working alone as many people as possible must be consulted. It is often a good practice to go back to the originator of the idea and try to expand on it.

Time will not be spent here on the Implementation and Reporting phases as each company has its own guidelines on project approval and implementation. However, later in this paper, a few suggestions will be made.

**Competitive Analysis**

Competitive analysis is a good approach for one person to eliminate unnecessary costs. This method of analysis can be classified as being semi-traditional VA in its approach. Obviously, the first step is to secure a sample of the competitor's product as well as one from your own company. Tear down each item into its details and post the detailed parts on a board. The parts should then be labeled as to description and function. A cost comparison must be made. The most direct approach would be to have the detailed parts of both the product in question and the competitor's product quoted by a vendor or in-house, if applicable. This will give an apples-to-apples comparison. The cost information should then be transferred to the labeled parts.

With the cost and function data available, there are now two approaches which can be pursued, assuming that the competitor's product is better value. First, a straight-forward comparison approach can be used. Compare functions and costs and isolate those functions which are resulting in poor value using the competitor's item as the basis. Using basic creativity methods, find other ways to accomplish those functions or to eliminate them. This will prove to be more effective than just "copying" the competitor's ideas.

The second approach is to VA the competitor's product. Since the assumption was made that his product was better value, then value analyzing his product will produce an item with even higher value. In a VA study of the competitor's product, the analyst should follow the Traditional Approach discussed earlier. One note of caution here is that many assumptions must be made due to the lack of information of the competitor's processes.

**Top Dollar Items**

This approach will not only key on high cost and/or high volume parts, but will also allow the vendors to get involved. To begin with, one should be able to acquire a list of part numbers in descending dollar volume from the Purchasing Department. Normally the top twenty or twenty-five numbers will generate sufficient activity for twelve months. These items have potential for generating significant cost savings. The parts are either high volume, in which case a small piece savings will translate into a large annual savings, or they are high piece price, in which case there is a good opportunity for significant improvement. One note here is to carefully investigate any other parts, which could be similar to the one under study. Often there are special purpose applications, which could be affected by a change.

Obviously the first step is to search for all available information and to define and classify all functions. At this point the suppliers for the item are contacted. The discussion should include problems the supplier has in producing the part, his most costly operations and how the part could be changed to become more manufacturable. These discussions should include the responsible design engineer, so that concepts can be evaluated quickly. Any valid and advantageous concepts are then routed through the normal implementation procedures. For those suppliers who contribute successful concepts which are implemented, there often exists incentive or reward programs. These could consist of larger orders, percentage of savings, etc.

In addition to the work with the suppliers, the analyst should study the part using the Traditional Approach. Normally, however, not as much time is required with just one part as with an assembly.
New Product/Special Project

Most companies organize special teams to investigate or work on new products or special projects. This is a golden opportunity for the Value Analyst. Not only is the item under study of higher-than-normal priority but also the task team is ready made. The most critical part here is to be a good salesperson. The analyst must sell the idea of being included in the special project team and then sell the idea of running a VA study on the project. Under these circumstances the analyst would use the traditional VA approach.

We now approach one of the most difficult portions of the VA job plan, implementation. This is true for a one-person value organization or a fully staffed Value Department. Typically the major bottleneck develops when input is required from Engineering. Since most value related changes require Engineering approval, testing, or comments, this is the area where the concentration must lie.

When the analyst seeks assistance or approval from Engineering, he finds himself in direct competition with other projects seeking Engineering's time and resources. This can be overcome by two straightforward approaches. First, support from upper management will increase the project's priority or secondly, accomplish enough tasks to minimize the needed Engineering time.

In obtaining upper management support the analyst must learn to communicate on their terms. For this reason the analyst should not concern himself with the amount of savings as much as the return on investment. In addition to the return on investment, the proposal should include the payback period and the equivalent sales dollars related to the savings.

A proven method of presenting this data to management is not an oral presentation but the same signature routing procedure used for capital appropriation. Most companies have a standard form and procedure to approve funds for capital expenditures. Normally only those items with high success potential, complete the signature circuit. Those approvals enjoy a high rate of implementation. For this reason it is imperative to have value projects included in this format. In this way those approved value projects will receive high visibility and normally upper management support. This fact alone will elevate the project in Engineering's priority listing.

Although the VA approach requires a complete and thorough study, often proposals are given to Engineering that still require much preliminary work. People tend to work on things that require the least amount of effort. For this reason the analyst must lay down as much groundwork as possible. Many times samples can be obtained from a vendor at little or no cost and be submitted with the proposal. The samples will provide Engineering with material to quickly evaluate the concept. The analyst should attempt to do preliminary testing of the concept by using either an outside testing facility or an internal test lab. This procedure often "weeds out" many concepts and saves Engineering time.

The analyst should strive to have an experimental budget. This budget is used to purchase samples or testing time at an external or internal test facility.

To insure that the project is complete and sellable, the following items should be part of the proposal package:

A. Appropriate cover form for routing and obtaining signatures for approval.
B. Position paper explaining the concept, advantages, and probability of success.
C. All calculations showing return-on-investment, payback period, and return-on-sales.
D. All quotations (vendor tooling, capital, Engineering, piece price, etc.).
E. Sketches and/or drawings.
F. All cost savings and implementation calculations.
G. Planning chart showing timing through implementation starting from Engineering release or capital approval.
H. Any test data that has been generated from samples and an analysis of that data.
I. The history of the part/assembly (design, manufacturing, marketing, and purchasing).
J. The future requirements of part/assembly.

Summary

This paper has only dealt with generalities and not specifics. Details of any program must always be worked out by each individual company to fit its own particular system and needs. However, these guidelines will provide a good base to build a one-person value program.

Although the VA/E activity is best suited in Purchasing or Manufacturing Engineering, the key is that it have upper management support. Without it the VA activity will be nothing more than a part-time job for an individual.

The actual work and job plan for the one-person value program does not really differ greatly from the traditional approach. The largest difference is that the individual must rely on part time help from the various functional areas and consultants,
versus having a full time task team. This normally leads to a slower overall process but is just as effective from an implementation standpoint.

Implementation can be difficult with the one-person approach, since there will not be a "team effort" at the time of the presentation. However, by establishing a solid game plan with management involvement and support, projects will have an excellent chance of success.

The analyst will have to spend additional time in verifying data and facts, since they will not be under the scrutiny of a team. The analyst must also be a good salesperson and be very determined to check all the alternatives. Persistence is the name of the game, as those in value work realize, due to the difficulties to make changes happen. However, a one-person program can be and has been successful. The best success is when a formal program is born from the efforts of the one-person value program.

SAVE PUZZLE CONTEST!

SAVE is offering one free registration to the International Conference to be held in Chicago, May 22-25, 1983 to the fully paid SAVE member who is the first to correctly identify the well known SAVE (past or present) National Officer. The first member with the earliest postmark to correctly identify the individual in the puzzle will be declared the winner of the contest. When one puzzle contest is completed we will start another with the same rules applying to each successive contest. The puzzle contest shall run until April 29, 1983.

Rules of the Puzzle Contest:
1. You must be a fully paid SAVE member to enter.
2. There will only be one winner per puzzle contest (earliest postmark will break a tie).
3. Only one entry per member per contest (don't take a wild guess, but when you think you are sure, get your entry in quick).
4. One puzzle piece will be published per SAVE publication (Interactions & Value World).
5. Entry must be submitted on the official form.
6. Outside envelope must be marked, "Puzzle Contest".
7. Closing date for all contests will end on April 29, 1983. Entries postmarked later than April 29, 1983 will not apply.
8. Present 1982-1983 Board Members are ineligible for this contest.
9. In cases of ties one full free registration will be divided among the winners.

So, get the form handy, take your guess, when you're sure, mark the outside of the envelope, and send it to:

SAVE BUSINESS OFFICE
220 North Story Road, Suite 114
Irving, Texas 75061

Good luck on your entry!

OFFICIAL ENTRY FORM - "PUZZLE CONTEST"

Contest Number __________________

My guess as to whom the individual is in the puzzle is —

________________________________________

I am a SAVE member and my name is:

________________________________________

PLEASE PRINT

Value World October/December 1982
Oscar Wilde defined a cynic as “...a man who knows the price of everything and the value of nothing.” Are executives and managers too concerned with the cost of their company’s Value Program to impartially judge its value? Are they so preoccupied with profit and reducing the expenditure side of the ledger that they seldom give thought to how the returns from their Value Program fit into the picture? When the budget crunch comes and the cutbacks are ordered, is the Value Program simply cut off the organizational chart by the corporate axe because it is an esoteric, under-valued, extra block on the page with unclear lines of authority and responsibility?

An appropriate question to ask executives and managers is whether they truly understand and value their company’s Value Program. Another appropriate question is whether or not the Value Program itself is producing good value for its cost. A corollary of course is, “How to improve the value of the Value Program?” Examining these questions creatively requires a framework which maintains value as the central concept.

It is a rare individual who is not concerned with achieving the best value for the price paid. How is value to be measured? How does one know when the best value has been achieved? Good value to one person may not be good value to another. Simply stated, good value is achieved when performance meets or exceeds expectations. Inherent is a clear understanding and definition of expectations. Good executives and managers can and do define their expectations, especially in terms of return on investment and profits. Likewise, value expectations of a Value Program may be defined, and performance measured in comparison to the value expectations.

VA theory identifies four types of value:

1. USE VALUE — The properties and qualities which satisfactorily and reliably accomplish a purpose.
2. ESTEEM VALUE — Qualities which create the desire to own or possess.
3. COST VALUE — The sum of all labor, materials, and other costs to procure.
4. EXCHANGE VALUE — Qualities which enable one thing to be exchanged for another.

Of these four types, only Use and Cost Values usually receive the attention of the Value Study. This may be preferred for a study for reducing costs of hardware, but it is inappropriate when discussing the value of a Value Program and the Value Program Manager. A more thorough and appropriate investigation of a Value Program should encompass all four of the traditional definitions of value. In all cases, performance expectations must be clearly defined to judge if good value is being achieved.

**USE VALUE**

The key to a successful Value Program and a successful Value Program Manager is a mutual understanding of the program’s function by the Value Program Manager and company management. Examine the expectations of the Value Program function from the viewpoint of Corporate Management and the Value Program Manager. Are the views compatible?

Do not stop once a mutual agreement has been reached. To grow, to increase the utility of the Value Program, Corporate Management and the Value Program Manager must ask, “How else can the Value Program be utilized?” Inherent is a thorough understanding by corporate decision makers of VA and what it can produce. Creatively search corporate closets for new roles, new projects, new understandings for the Value Program beyond the traditional ones.

VA your value Program! Define the functions and brainstorm additional ones.

**ESTEEM VALUE**

How many corporate decision makers, program managers, sales persons and clients know that you have a Value Program, and what it does for them? Take advantage of your Value Program. It is an asset that demands publicity.

Tell your clients and customers that an organized effort is constantly applied to improve your product. Show shareholders how your Value Program is working for them to increase profits and dividends.

Let the public know how your company is combating inflation by reducing costs, conserving energy and material, improving production and guarding the environment using VA.

Sell your product or service by advertising and publicizing your Value Program efforts through a public relations campaign.

**COST VALUE**

A cost accountant can readily calculate the dollars that are expended on a Value Program. But
how are the costs allocated? Is the Value Program just another item in the general and administrative overhead account? Take full advantage of the savings generated by a productive Value Program. Take it out of the general overhead account and make it a direct cost of product or service development. Show what costs are being invested and what savings are being returned. You have to spend money to make money. A productive Value Program returns on the average ten dollars for every one dollar spent. Stating it another way — it only costs one dollar to save ten.

Try a creative turnaround. Ask what it would cost not to have your Value Program. Investigate operations, manufacturing, products that would cost more if the Value Program were not in existence or not productive.

What are your Value Program costs and are the best returns possible being achieved for these costs?

EXCHANGE VALUE

What would or could you exchange your Value Program for and what would be the result? It is to be hoped that this is not an easy question to answer — most difficult if an honest assessment indicates an effective, productive program. Perhaps a more creative exercise is to speculate whom to exchange for the Value Program Manager.

If your Value Program has a narrow focus and is not readily accepted, consider exchanging the Value Program Manager with other managers — give each the inside view of the other’s work, problems and successes.

The Value Program Manager has insight into a unique problem solving methodology that can be profitably utilized throughout your company. Function Analysis, the heart of VA, and FAST can be used by engineering, sales, cost controllers, in fact all decision makers, to improve hardware and software alike. Creative exchange of information and ideas between corporate decision makers, managers and the Value Program Manager will point the way toward increased use of VA techniques in all phases of your work.

Value your Value Program and Value Program Manager. Inflation, energy shortages, unemployment, a weakening currency — all are causes for taking stock of policy and programs and jettisoning those of little value to the company. Don’t be a cynic by only knowing the price of your Value Program without understanding its value and potential value. Be clear in expectations; thorough in investigation; and, impartial in judgement. Take time to conclude whether your Value Program is a good value — if not, try to improve its value — the potential is there.
UNEARNED RICHES
by Leonard E. Read, President,
The Foundation for Economic Education, Inc.

(Abridged from Mr. Read’s article in the September 1981 issue of NOTES from FEE; by permission of The Foundation for Economic Education, Inc.)

Many people sincerely believe that the value of anything is determined by the labor used in producing it; that its price ought to reflect quite objectively the amount of labor put into it. The belief in this labor theory of value, however, is founded in myth, not fact. Day-to-day experiences reveal its error. For a far-fetched example, the same labor could be used to make mud pies as to make mince pies, yet the value in the marketplace would differ. A service or a product of little value at one time or in one place may be highly valued at another time and place. For instance, an artist may produce hundreds of paintings considered freakish by others and be rewarded with starvation for his labors. But, let his style become the fad, and for less labor than before, he can revel in luxury.

Individuals have varying value judgments. Value in the market sense, therefore, is a subjective rather than an objective determination.

How Adam Smith, holding to the labor theory of value, could have seen the great advantages of trade — the untold blessings of others, or society, to the individual — and could have come out in favor of private enterprise instead of socialism, is a miracle more to be attributed to sound instinct than to economic reasoning.

Marx, as distinguished from Adam Smith, followed the labor theory of value to its logical conclusion: socialism. Marx looked upon all things useful as one great “wages fund” and believed that the entire fund ought to be distributed directly to laborers. To allow any part of this fund as a return on capital would amount to unearned increment, and, he argued, would be exploitation. How any advocate of the cost-of-labor theory could believe in anything but socialism is difficult to understand. Smith, Ricardo, Mill, and many others instinctively, not logically, concluded otherwise.

Only if one understands the marginal utility or subjective theory of value based upon the judgments of countless individuals acting freely and voluntarily in the market may he proceed logically to a belief in private ownership and control of property. With this kind of an understanding, he can see why any person may have a perfect right to consume more than he could ever hope to produce by his own labor. He can, it is plain, properly own anything others will freely offer in exchange for what he has to offer them. This means gains for all participants in the exchange process, gains which must always appear to be unearned in terms of labor expended. Nonetheless, it reflects the approval of all who are properly concerned in any transaction. The marginal utility or subjective theory of value needs no other justification. Because it is based on willing exchange, it works without coercing anyone. The labor theory of value — the labor theory of price determination — on the other hand, founded on unwilling exchange, cannot function without coercion.

Now, let us proceed to the person whose father invested $500 in an early auto industry and who now wonders to whom he should give the resulting millions. He is no more than recipient of unearned increment than is the person who today works for a wage in the same company. Both exist on what they themselves do not and could not produce. And if the wage earner were to succeed in cutting off what he might think are the unearned riches of his “lucky” brothers, he would at the same time destroy his own source of livelihood.

Let us contemplate this wage earner. He lives in a house he could not build. Perhaps, given enough materials and tools properly fabricated and the plans some architect has drawn, he could put together something resembling a house. But he wouldn’t know how to make a lowly nail: mine the ore, alloy the metals, construct the furnaces, build the extrusion and other machinery, and so on. Could he make a hammer? A saw? Bring the lumber to its finished state? Even make the string on which his plumb hangs? Grow and gin and spin and comb and weave the cotton from which it is made?

The astounding thing is that it is possible for him to gain without any change in his efforts, his skills, his knowledge. Let others become more inventive and more productive, and he may receive more in exchange for what he has to offer. Parenthetically, it is also possible for him to lose out entirely, as might happen if he persisted in offering nothing in exchange but buggy whips.

There is a fact still more astounding. Our wage earner may think of his plight as hapless when compared to the one who inherited his millions. True, the millionaire has gained much from the doings of others But the wage earner himself owes...
his life to the doings of others. It is not that possessing millions and having life are alternative propositions. That is not the point. The point is that both flow from the same exchange process and that whatever each has — be it autos, houses, food, clothing, heat, millions, knowledge, or life itself — comes to him unearned in the sense that he alone did not produce all of it. We trade because we can all get more satisfaction from our labor by that means. Vast stores are available to those who have anything to trade that others value. In the free market, each earns all that he receives in willing exchange. This is fantastically more than one could produce by himself.

To fully grasp the process by which one can consume in a day that which he could not produce in thousands of years — the process by which he can earn in a day that which he could not earn by himself in thousands of years — it is only necessary for one to see that one’s earning power is capable of unlimited expansion by the productivity and exchange and value judgments of others. This world of creative energy, this productivity exterior to self, then, becomes of singular importance to each one of us. Not only does our prosperity — material, intellectual and spiritual — depend upon it, but life itself comes under its government. In short, each of us is the beneficiary of this productivity through division of labor and capital accumulation and investments by others.

Looked at in this light — oneself as a beneficiary and division of labor as a benefactor — it becomes pertinent to re-examine one’s own behaviors, attitudes, actions. If we would best serve our individual self-interest, we would do well to live in harmony with the facts of life, not in disharmony with them.

Looked at in this light, one should do everything possible to increase his own perception and exchange powers. It is only by self-improvement that one can best serve self. And, clearly, it is only by self-improvement that one can better serve others — that is, add to someone else’s well-being.

Who composes this benefactor of ours, this storehouse of energy? It is composed of individuals who, like ourselves, are different from all others and who, like ourselves, depend on others. And what ought to be our attitude toward these millions of others if looked at from the standpoint of self-interest?

1. Self-reliance, a great virtue, should be emphasized. The way to be self-reliant is to keep off the backs of others and to engage in willing — never unwilling — exchange. This is the free market.

2. It is a primary fact of observation that these others, like oneself, will work at their best if permitted the ownership and control of the fruits of their own labor — and of their own participation in the exchange process. It is in one’s interest to preserve his incentive. This is the institution of private property.

3. As with oneself, these others will act at their best creatively if left free to do so. One should, therefore, look with great disfavor on any interference with creative activity and on any inhibitions to free exchange and communication of creative action. One’s own interest is impaired if there are marauders or robbers or authoritarians among these others; if there are men among them practicing violence, fraud, misrepresentation, or predation. One’s own interest suffers if voters use the political apparatus to gain their own ends at the expense of the vast majority of the public. The form of government that protects the smooth operation of the free market economy and its voluntary division of labor is limited government.

For each individual to save his own skin and soul he must give at least as much concern to the rights of others as he does to his own. He would be as eager to protect the creative energies and the free exchange and communication of others as his own. For each of us can truly say, “I am the beneficiary of their existence.”

Are the riches received in a free society unearned? Only in the sense that all producers reap fantastically more than they could earn in isolation. The benefits flowing from our division of labor are available to all of us in willing exchange if freedom prevails. Such are the thoughts of one who believes himself a beneficiary and who believes that all others who act creatively are his benefactors. I owe my life to them; hence if I would live and prosper, I shall work as diligently for their freedom as for my own.

**WINDOW ON VALUE**

We are in need of brief paragraphs from YOU. Send us your management or other personnel changes, announcements of a new contract awarded or job completed, the opening of a new facility or the success of a recent VE study or seminar or any other items of interest you would like to share with your fellow SAVE members. We will edit as necessary.

Editor

Value World October/December 1982 11
CALENDAR OF EVENTS
SAVE - NATIONAL

OCTOBER, 1982
1   Deadline for November Interactions
31  Summer Clearance Sale Ends

NOVEMBER, 1982
1   Deadline for December Interactions
1   Deadline for nominations for Honors & Awards

DECEMBER, 1982
1   Deadline for January Interactions and

SAVE - Chapter Meetings

001 PAUL REVERE - Contact President William Santos, (617) 543-8750 ext 2996
October 5  Team Building, Gerie Tolman, Speaker
November 9  Marketing Planning, Jerry Kaufman, Speaker
December 7  Value Engineering in the Port Authority, Nathan Borsuk, Speaker
January 20  Problem - Solving Circles Workshop, Craig Bowers, Speaker (Joint Meeting with ASQC)

027 CHESAPEAKE - Contact President Frank J. Elia, (301) 824-5483
October 20  Plant Tour, Carr-Lowery Glass Co.
November 17  Programmable Controllers - A VE Approach to Machine and Process Control
December 15  Japanese Manufacturing - A First Hand Report from the Appliance Manufacturer Tour
January 19  VA/VE Opportunities in Metallurgy

044 CENTRAL INDIANA - Contact President R. F. Homeier, (317) 267-2276
October 21  Cummins Engine Plant, Speaker TBA
November 18  Tour of American United Life Building, Speaker on VE in Construction
December 16  Christmas Party, Speaker on VE in Construction
January 20  VE in the Department of Defense, Gordon A. Frank, Speaker

048 CHICAGO METROPOLITAN - Contact President Robert L. Redford, (312) 887-2146
October 21  Information Phase
November 18  Analysis Phase
December 16  Ladies Night
January 20  Speculation Phase

050 TWIN CITIES - Contact President Leo C. Ryan, (612) 296-2743
September 30  Strategic Market and Product Planning, Chuck McFall, Speaker
October 21  Management Night, The Economy - Current and Future, Doug Tice, Speaker
November 18  To Be Determined
December 16  Christmas Social
January 20  Creativity Techniques

055 WISCONSIN - Contact President David DeMars, (414) 671-2000
October 6  Robotics - Japanese Approach to Flexible Machinery System, Wallace Karrasch, Speaker
November 3  Product Safety - Joint Meeting, Gene Veret, Speaker
December 1  Office Productivity, John Flagge, Speaker
January 5  Team Problem Solving, James Fiorelli, Speaker

056 NORTHERN OHIO - Contact President Rafael R. Dominguez, (216) 329-9386
October 13  Team Selection, James Fiorelli, Speaker
November 10  Management Night
December 10  Christmas Break, No Meeting
January 12  Reducing Transportation Costs, Speaker TBA

067 DALLAS/FT. WORTH - Contact President Ginger Willingham, (214) 357-0870
October 20  How to Really Look at the Problem (instead of symptoms/solutions), Update on membership status and CVS program, Rita Bates and J. J. Kaufman, Speakers
FOR IMMEDIATE RELEASE

The SOCIETY OF MANUFACTURING ENGINEERS has announced publication of several new books. For further information contact Publication Sales Department, One SME Drive, P.O. Box 930, Dearborn, MI 48128 (313) 271-1500

Milling: Methods and Machines is a collection of outstanding technical papers and journal articles discussing the basics of the milling process, milling cutters, economics and process planning for milling, and recent topics in milling.

Machining Hard Materials discusses various processes used for difficult-to-machine hard or brittle material. Nontraditional machining, cutting and abrasive machining are also examined in detail.

Modern Trends in Cutting Tools is a collection of outstanding technical papers and journal articles discussing types of tool materials, tool geometry, tool preparation, the selection of cutting conditions, chip breaking and the economics of machining.


Industrial Fluids: Controls, Concerns, and Costs is a collection of outstanding technical papers and journal articles discussing the need for better fluid management, systems design, recycling and recovery, high water base hydraulic fluids, chemical control considerations, and ultra filtration.

Industrial Robots: A Delphi Forecast of Markets and Technology, this Study jointly sponsored by SME and the University of Michigan, sees growing use of industrial robots.

Engineering Fundamentals is a new, revised and expanded edition intended to help those preparing for the Manufacturing Engineering Certification Institute’s Certification exam and also assist those who want to “brush up” basic engineering skills.

The INSTITUTE OF INDUSTRIAL ENGINEERS announces 1982 FALL IE Conference and Preconference seminars. Contact IIE, 25 Technology Park/Atlanta, Norcross, GA 30092 (404) 449-0460.

Productivity is a Good Idea in Action is the 1982 message headlining the annual October crusade for gains in America’s productivity growth to city halls, state capitols, Congress and the private sector.

Battling tight economic conditions with proper application of modern industrial engineering techniques will be a dominant focal point during the 1982 Fall IE Conference of the Institute of Industrial Engineers which is scheduled November 14-17 in Cincinnati, OH.

Eight industrial engineering seminars are slated in Cincinnati prior to the opening of the Fall IE Conference to respond to “these difficult economic times.” The seminars include: “Selling the Solution as an External or Internal Consultant”, “Increasing Your Personal IE Effectiveness”, “Improving IE Productivity with Microcomputers”, “Computer-Aided Layout”, “Industrial Robot Applications”, “Performance Rating and Methods Engineering Techniques”, “Productivity Measurement and Improvement Strategies and Techniques” and “Maintenance Management for Productivity”.

The 1983 IIE/MHI Material Handling Seminar, to look at material handling from many directions and using many computerized aids has been scheduled February 7-9 in Philadelphia and February 14-16 in Phoenix. This intensive seminar is a continuation of a successful joint venture between the Institute of Industrial Engineers and the Material Handling Institute.
Function Analysis System Technique (FAST) For Management Applications

Part II
J. J. Kaufman, CVS
Corporate Manager, Value Programs
Cooper Industries
Houston, Texas

THE SECOND GENERATION FAST, OR THE FAST MATRIX

A new and somewhat novel approach to Fast modeling was discovered when a department manager wanted to see what would happen if his conventional Fast diagram was raised to the highest level of abstraction, and still be able to work within the problem framework.

The variation, called the “Manno Modification”,2 started with a complex Fast model, dealing with new product design and implementation. The “raising the level of abstraction” process called for removing critical path functions until the minimum amount of functions remained on the critical path, and still complied with the HOW-WHY logic.

All other functions were “fit” under the remaining critical path reading in the HOW direction.

Figures E and F illustrate the transition to the Fast Matrix model of the new products implementation function of the design engineering department.

Note that according to the previous ground rule, a block under a critical path function is an activity. Reading the matrix form in this manner does not disturb that procedure, or definition.

Following the development of the Function Matrix, another dimension was added, that of determining function responsibility, and interfacing areas of responsibilities. This led to a pro-

cedural audit, and a modification of interdepartment procedural activities, identifying departmental responsibilities.

The order entry FAST model (Figure G) proved very useful in matrix form, because each block on the “grid” was the subject of a interdepartment brainstorming session to find the best method of implementing that function (or activity) while keeping the highest order function visible.

It also served as a function model, against which to evaluate current order entry programs, and design new elements, in accordance with user needs.

Figure H and I show the conventional and matrix FAST approach in building sophisticated, customized process control equipment, from standard subsystem modules.

HINTS

A. Failure to read logically in either the HOW or WHY directions could result from:

1. A missing function - May require a “bridge” function between the two functions to satisfy the question.

2. An incorrect function or one that is either too low or too high a level of abstraction.

3. A function not properly described - May require using another verb and/or noun to identify the function.

B. Develop the major critical path first. The remaining independent functions and activities can then be appropriately added in the WHEN direction or in building minor critical paths by connecting the independent functions along the HOW-WHY paths.

C. Left over cards should be used to build minor FAST models, then tested by determining their fit in the main FAST model.

D. Attention Span: Don’t force a conclusion beyond the team’s capability to participate and objectively contribute. After a continuous working session, lasting from two to four hours, compromises begin which lead to accepting, with reluctance, model entries by dominant individuals on the team. At this point, it is best to break away from the problem for about a half hour. During this break the team should not see or discuss the problem.

2Named after Eugene Manno, Engr. Dir., Honeywell PCD, who evolved this approach while searching for ways to highlight key functions, milestone events, and identifying function responsibilities.
When the team reconvenes, go through the HOW and WHY directions from the beginning scope lines, making the appropriate modifications. The “break-away” process should be continued as often as necessary to resolve the FAST model.

CLOSING COMMENT

Practitioners who have been involved in a number of Fast Exercises will agree that the dialogue and discussions leading up to the model, are more important than the model itself.

The process of identifying functions, questioning and justifying them, especially by an interdisciplinary team, is particularly useful in structuring the problem and moving towards corrective actions. Once the problem has been structured, the model form serves only to explain the team’s rationale to outsiders, and to communicate across team disciplines.

As important as the model form is, it is a tool to stimulate creative thinking. It is not an end product unto itself.
FIGURE E (2)
FIGURE E (3)
WORKSHOPS and SEMINARS

ARTHUR BEARD ENGINEERS, INC. - 40 Hour Value Engineering Training Workshop Schedule
(Contact Olga Murcia (703) 255-2470)

Phoenix, Arizona October 18-22, 1982
Atlanta, Georgia November 8-12, 1982

UNIVERSITY OF CALIFORNIA, BERKELEY EXTENSION - Value Engineered Design and Construction 40 Hour Workshop (Contact Continuing Education in Engineering, University of California Extension 2223 Fulton Street, Berkeley, CA 94720 (415) 642-4151)

Berkeley, California November 8-12, 1982

UNIVERSITY OF WISCONSIN-EXTENSION, 432 North Lake Street, Madison, WI 53706
Institute: “Improving Technical Communications: Writing” October 4-6, 1982, Fee $395; Institute: “Improving Technical Communications: Speaking” October 7-8, 1982, Fee $255 (Fee for both $600) Contact Sandra Counter and Thomas Snodgrass, Department of Engineering and Applied Science, University of Wisconsin-Extension, (608) 262-2703 or 263-3371

7th Annual five day 40 hour seminar and workshop, Value Engineering I, on the principles & techniques of Value analysis/engineering. October 25-29, 1982, Fee $650. Contact Betty McKinney (608) 263-3371

Engineering seminar, Preventive Maintenance, November 2-3, 1982, Fee $230. Contact James E. Nicholls, Department of Engineering, University of Wisconsin-Extension (608) 262-0638


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October 25-29, 1982 Madison, Wisconsin

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CUSTOMER ORDER PROCESSING

(FUNCTIONAL ANALYSIS SYSTEM TECHNIQUE DIAGRAM)

"HOW do I ....? By......"

SATISFY CUSTOMER NEEDS

FULFILL THE ORDER

EXECUTE THE ORDER

CONSIGN RESOURCES

ISSUE INSTRUCTIONS

DEFINE THE ORDER

REACH AGREEMENT

MATCH PCD'S CAPABILITIES TO THE NEEDS

RECOGNIZE CUSTOMER NEEDS

"WHY do I ....? So I can ...."

ACCUMULATE THE ORDER

BUILD EQUIPMENT

RESERVE PRODUCTION CAPACITY

SCHEDULE ORDER EXECUTION

DELINEATE PRODUCTS AND SERVICES

ESTABLISH SELLING PRICE

ANALYZE CUSTOMER NEEDS

RELEASE THE ORDER

PERFORM SERVICES

ALLOCATE MATERIALS

ACTIVATE REPORTING SYSTEMS

SPLIT ORDER BY ORDERING PROCEDURES

PREPARE THE ORDER

ESTABLISH BID PRICE

ASSIGN COSTS

RECEIVE OUTSIDE PURCHASES

REPLENISH INVENTORIES

PUBLISH REQUIREMENTS

ASSIGN CODES FOR CONTROL

APPROVE CUSTOMER CREDIT

QUOTE THE JOB

INVOICE CUSTOMER

MANAGE THE ORDER

INITIATE OUTSIDE PURCHASE ORDERS

CONFORM TO STANDARD FORMATS

RESOLVE TERMS AND CONDITIONS

RECORD PCD BOOKINGS

SCOPE OF THE PROJECT
Figure H(3)

- Prepare/Submit Proposal
- Determine Customer Acceptability
- Establish Budgetary Quotation
- Price the Order
- Target Order Schedule
- Assess Competition
- Assess STD. Products Offerings
- Develop Pre-Config. System
- Resolve Performance Requirements
- Conduct Feasibility Study
- Identify Unique Terms & Conditions
- Assess Customer Needs
- Analyze Customer Needs
- Respond to User Request
- Process Design Changes

Fast Team - 10/77
T. Arntsen
R. Cunningham
C. Farmer
J. Kaufman
F. Osenbach
A. Ramsay
E. Wilson
HOW

WHY

Satisfy customer req. → Ship to customer → Accumulate order → Build system → Instruct factory → Design system → Define order → Respond to user

- Install system
- Support start-up
- Make system operational
- Invoice customer
- Load equipment
- Identify system
- Perform
- Verify
- Correct system defects
- Pass customer inspection
- Correct deficiencies
- Inspect system
- Make system operational
- Inspect assemblies
- Build products
- Document design
- Package order
- Prepare/submit proposal
- Respond to user
- Evaluate proposal
- Price order
- Test order schedule
- Init. custom. acceptance
- Estab. budget
- Offer access competition
- Develop pre-comp. system
- Assess std. prod.

WHY

- Define order
- Design system
- Build system
- Instruct factory
- Accumulate order
- Ship to customer
- Satisfy customer req.
- Build products
- Document design
- Package order
- Prepare/submit proposal
- Evaluate proposal
- Price order
- Test order schedule
- Init. custom. acceptance
- Estab. budget
- Offer access competition
- Develop pre-comp. system
- Assess std. prod.

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Requirements - Please include in your draft:
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If you feel your subject would best be presented in the form of a Class Lecture (4 hrs.), Seminar (4 hrs.), or Panel (1 hr.), please indicate so under your topic title.

Further instructions will be forthcoming with the receipt of your draft. However, if you have any questions please don’t hesitate to call.

The Editor.

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