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# Value Analysis in Industry ... Past, Present and Future

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Thank you, Dusty. Ladies and gentlemen, it is a real pleasure to be here, and bring honor to Dusty, Wayne and John, who for 15 years have steadfastly, through bad times and good, kept the use of value analysis techniques going and growing. Now, when economic outlooks are so black, they recognize that it is the time to try harder, and to be ready for what is coming. It is a real opportunity to talk to managers of value analysis. I don't need to talk about the techniques, but can discuss the vital part that managers must play in order to have their programs succeed.

### Inflation destroys--Value Analysis, Its Arch enemy, Builds

At the moment, I would like to tie Value Analysis to our greatest national and international problem--inflation. Inflation is exactly the opposite of value analysis--it is something for nothing. Value Analysis is something for something. Finding out exactly what the something is that the user wants and providing it to him with the best thinking possible. Value Analysis further identifies function. All people want function, when they spend their money. It fixes value on that function. If functions were always achieved for their value, there would be no inflation. Inflation is paying more money for the same function, charging more money for the same function. So, as we today

determine ways that we can do an even better job in managing our value analysis, we will be giving many, many people more opportunity to help fight our largest enemy, inflation.

### Some Value Analysis Operations Live--Some Die

I have seen Value Analysis organizations that never got off the ground. I have seen some accomplish great good, restore the company's profitability. I have expected a secure company with good earnings for 20 years. But it didn't happen. In 2 or 3 years, the value organization was ineffective. Earnings were dropping. Why? In all cases, the men got about the same training, then why the difference?

### The Manager Of The Value Analysis Operation Is The Difference

The difference was the manager of value analysis. And I am so pleased to be able to address myself exclusively to the opportunity areas of the manager of value analysis. And I might put it even stronger. If the manager of value analysis does not pick up these opportunity areas, the operation fails. The failure can be complete or partial. I will discuss four vital areas.

### Vital Manager Work Area # One: Job Enlargement

The manager of value analysis must enlarge the job, the work area

for the man who has training, before he comes back into the job. Let's think of an organization very much as a jig-saw puzzle. Or maybe as a cookie sheet. The people being like gobs of cookie dough put on a sheet, it goes into the oven, and they all expand to fill the space. Very truly, in an organization, although each person has his specific duties, there are many, many things that are written out and that are not written out, and people expand to fill all the space and to do the necessary work. How often have we found, when good men take training and go back, that frictions begin right away. Why? They have so much more ability, they are trying to do more, and whatever they do, they are bumping into the people who surround them who are accustomed to having them limit their size to the size in the jig-saw puzzle. If I could help you to have a vision, actually, of an organization as a jig-saw puzzle, and whenever you take a man out here, and here, and here, and get training for him, you look at that in your mind--"How am I going to enlarge that so the organization will accept his full contribution when he comes back?" This, I would say, is an absolute must for the manager, if we are going to have great success, and continue to get the good from the training.

#### Work Area # Two: Upward And Lateral Communications

The second area is a difficult one. The necessity to communicate. It is the job of you, as manager of value analysis, to communicate to all levels above you, to your level, and to one level below you; that is,

the level of the men. This communication is your job. How often have I heard it said to a man, "Now, you know this (VA). You go out and communicate. You tell the people about it." And as he tries to do so, if he tries diligently, they feel he is blowing his own horn. He is building his own empire. All kinds of criticisms come, because they don't understand. Communication is a lot more than just talking. So, the responsibility of this communication is definitely yours. I want to bring up a couple of things about communication that we develop from experience. Men are not logical, they are psychological. Therefore, in communication, logic, which I tried for years, does not make the sale, does not reach superiors. Next, feelings control plans and cause decisions. You, as the manager, are responsible to create the feelings that people have toward value analysis, toward the use of the techniques, toward the people who are doing it. Do you think that's an easy job? We cannot communicate to men's feelings by logic. We had a professional psychologist as a consultant. We learned that three-fourths of the job of good value analysis is in the area of people, and one-fourth is in the area of more knowledge, more technique. How, then, will we communicate, if we can't communicate by logic? It's the task of you--the manager.

#### Work Area # Three: You Must Become And Stay Involved

It is necessary for you, as the manager of value analysis, to participate. Don't think for a minute that when you get men and train

them and assign them jobs, you leave them the job. Presumably, these men are not going to be on any jobs that are not important, and on any important job, it is necessary along the way to know what is being done, and you as manager of value analysis can help in what is being done.

For example, the first step in a project is information gathering. First information on any difficult project is always drastically incomplete, and often, essential parts are in error. There is always the wish to get along with it, and proceed on the basis of the information that is available, even after a small penetration into it. You, as manager of value engineering, need to take a look-see, which might be 15 minutes, and it might, on a big project, be 2 hours. "Just what information have you now developed on this, prior to starting the solution of the problem?" This is not interference with the job. The men do the job, but you are responsible for it, and you are going to turn in a good job, and you must know that they are thorough in correcting information and in securing it, before they use their minds on creative solutions.

Number two step is the analysis of the information--what does the information mean? Again, you will schedule a time with them. "What have you decided is the key problem?" Or "Are there several key problems?" "Which ones have you decided to solve first?" Now, you not only know whether they have really got ahold of the problem, but you have a chance, if you do have other information, due to your more extensive experience, to bleed it into the project.

Then comes the creativity which, as you all know, is a very difficult and a very powerful thing. You will, at the end of their work on creativity, say, "All right, let's see what you have produced in creativity." And I don't mean just after they select "good" solutions. Let's see the whole pattern. "Let's see the range of creativity you have had. What you have probed into." You will often find, as so often happens, they are anxious to get along with the solution, and they haven't more than a third of the way explored the areas that should be explored. And you will lead them to do it. This will get the job done, this will increase their competence, as well.

Then, one more step, after they have decided that we will take "this" course on the project, have selected "these" two items, for example, from creativity, to pursue, then is the time for you to talk with them about it. "What have you decided? And why did you decide it?" It may take only a few minutes, but it gives the men the guidance, it gives them the leadership, and it gives you a chance to communicate to others on the basis of solid happenings, and it will do the job for your men.

#### Work Area # Four: (Nature's 1st Law) Adequately Propagate The Species

This one is simple, but it has taken us a distressingly long time to learn, "adequately propagate the species." More "deaths" have occurred because of this deficiency than all others combined. The first plan of nature is "How do we overwhelmingly propagate the species?" An oyster back in

Chesapeake Bay puts 6 million eggs a year into the water, and the male oyster an equivalent number of sperm. A termite will lay 10,000 eggs a day, all fertile. Nature has provided for your continuance by putting millions of sperm per cubic centimeter in the male's secretion. Damn it! What provision have you made to propagate the species of value analysis? Do you think value analysts are going to live in your company? And good value analysis work be done, continuously, if you haven't taken real steps to propagate the species? Absolutely not.

How do we compare with the other professions? You don't have to propagate the species if you want an engineer. Already, the colleges have complete courses to make electrical and mechanical, hydraulic, aeronautic and others. You don't have to propagate the species if you are in the finance business, because there are colleges of finance. All you have to do is find one and hire him. But, let's don't forget, we don't have that yet. We are happy that the universities are starting to have courses, but they do not have rugged, solid, full courses that will make a man you could hire who would have the knowledge, the depth, and the variation of skills to do the job.

So, that's the number four job. Along that line, you all know that in the value analysis operation such as you will have, some men who get an opportunity will do an exceptionally good job, and they are taken off and given another job. And they should be. They climb up the ladder, become managers of this and that, and continue to do well. But what about the value

analysis unit? What does that leave the unit? In propagating the species, let's always improve it. Now, I'm a farmer. I grew up in Nebraska, actually, not too far from here. And, we would very often pay \$1,000 to \$2,000 for a bull. There were plenty of bull calves available for \$150. Why didn't we use them? Because we wanted to improve the species--and it paid off. What do we do in the value analysis operation as our best men become known for their competence and advance from our unit? Alas, too often we look into our remaining organization. There's Joe. He had the training--but he doesn't do very well in the actual work. "He's a \$150 bull." Still, he's a resource, and we're spread thin, we'll have him "train some others." Terrible, terrible. Downgrading. So, right in this propagating, you have to make the species better, better, better, all the time. Let the best men go, yes. But have backups and have plans to grow more excellent value analysts.

#### What Is My Task As Manager Of The VA/VE Activity?

If the environment is hostile, whose job is it? It's yours. What people don't understand, they discredit. If there are complaints about the men, or one man, or the activity, whose job? It's yours. If the funds lag, whose job is it? It's yours. The responsibility of the value analysis manager, if he puts on a real program, is shocking. If others in the organization are opposing the use of the value techniques, whose job is it? It's yours. If you find the scope of the men is limited in certain areas? It's your job. If you find that

they continually take your best men, whose job? Yours. But-- you need some planning ahead of time to be ready for that. You hope for that and expect that. If they limit training, whose job is it? It's yours.

If, as the use of the techniques continues in an operation, they get diluted so that there is no longer good information search, good problem gelling, good creativity and good study of basic functions, whose job is it? The task is yours.

#### In Conclusion

I will review the four vital manager tasks. One: it is definitely your job, your minimal task, to enlarge the job of every man who gets these new techniques and new potential so when he gets back on the job, he can use them without encroaching on what other people feel is their work. Two: it is your job to communicate so that people understand who they are, what they are trying to do, how they are trying to do it, how it fits into the overall pattern, and how it benefits everybody. Three: it is your job, not only to assign, but to participate, to the proper extent, with your men, so that you know exactly what they are doing and help them when they need help. Four: and, you could almost say "above all," but the others are vital, too, it is your job to propagate the species and propagate it soundly, in a way that it is growing in capability all the time.

Ruggles: Larry said he would be very happy to answer any questions that you might have. We have maybe 10 minutes here that you might like to throw a question or two at him.

Cyril Tammadge, General Atomic Company, San Diego, California: Regarding your item number one, you say to enlarge the work area of the individual that is trained. By this, do you mean to provide him with increased responsibility, or increased authority, or what precisely can you see the value manager can do, as far as the line organization responsibility that a man has, after training?

Miles: Each man in the line organization has a certain area that he has been accustomed to covering. He works in an organization, and he does certain things in that organization. When he comes back, if he is going back into that environment, and he usually does, he will not only do that, but can do a lot more, besides. He will do it better. He will pick up the things that he has been doing at an earlier stage, and he will wind them up at a more complete stage. So, what the manager of value analysis has to do is, when the man is taking training, go to the manager of that and say, "We are going to have Joe back. Joe is going to have new skills. He is going to do things you never thought he could do." And we want to be sure that you expect that. And that you give him "space" so that he can do more work and not have frictions with his fellow people. Actually, you know, what a man believes his boss expects of him determines what he can do.

Ray Fairbank, John Deere Ottumwa Works: How can we get courses started in colleges? This is one of my goals this year, and we have made some initial contacts, but how do we get courses started in colleges?

Miles: Because the Society has done considerable work on that, I would like to have you just hand the Mike to Jerry Kaufman, the President of The Society of Value Engineers, who will know what is being done and can accept any suggestions the group might have to accelerate it. Jerry, would you talk about that.

Kaufman: Very quickly, we have approximately 25 colleges and universities that accept value engineering/value analysis function as a credit course, either within a discipline or as an elective. We

are trying to start this year what, hopefully, will take us into a new program, and I have charged Dr. Fraser with the assignment to develop a course curriculum that will eventually lead toward a graduate program credited course in the value analysis/value engineering discipline. I don't know how long it will take us to do it, but I think that the time is here and we have got to move in that direction.

Miles: I think it's great that you fellows have men like this who have the answers to your questions.