

SAVE PROCEEDINGS 1994
VALUE ENGINEERING IN GOVERNMENT CONTRACTS
THE TEN BEST KEPT SECRETS

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ABSTRACT

There are 10 common practices of the people who submit successful Value Engineering Change Proposals (VECPs). Those 10 practices are outlined in this paper as a practical guide to anyone who is interested in starting or improving the way (s)he approaches VE on government contracts.

INTRODUCTION

The 10 best kept secrets of doing VE on government contracts are really not secrets at all. They are truisms based on experience that have been handed down from the knowledgeable to the novice for years. The problem is that we have to be continuously reminded of these truisms and how to make them work for us. We don't always "practice what we preach". For this paper, I will call them secrets.

Before getting started on the secrets, let me review some points and statistics that might be of interest. VE has been in the Department of Defense (DoD) contracts since 1962. Since then contractors could submit VECPs to the government. The basic requirements are that the VECP must change the contract and save the government money. If accepted by the government, the contractor shares the net savings according to the arrangement in the contract. The most common arrangement is a 50-50 share rate. This means that the contractor gets 50 percent of the net savings during the duration of the contract. This is a good deal. Both the government and the contractor win in this arrangement. So what are the sensational statistics from this 30 year win-win arrangement? Over the 30 year period only a few of the DoD contractors have submitted even one VECP. Out of all of the submitted VECPs, the average acceptance rate has been about 50 percent, declining in recent years to 40 percent in 1992. The (MICOM) numbers are a little better, but still less than ideal (see graphs).

While some impressive savings have been generated (billions of dollars), as a percentage of money appropriated, it doesn't even approach one percent. Why are these statistics so dismal? Haven't we all heard of how one company or another has made lots of money using VE? A further examination of the data reveals that the 50 percent acceptance rate is the average of two very polarized groups. One group of very successful companies has close to 100 percent acceptance rate on their VECPs. The other, a larger number of companies, try to submit VECPs and get them turned down until they give up on VE. The average acceptance rate is 50 percent. It takes some commitment to ensure that your company is one of the proposers that has close to a 100 percent acceptance rate. The government rewards those companies because the government benefits also. This leads me to the first best kept secret of VE on government contracts:

IN THE LONG RUN, VE IS EITHER WIN-WIN OR LOSE-LOSE ARRANGEMENT.

Simple isn't it. We both win or we both lose. Now you might be thinking to yourself "I know of a time when we tried a VECP and the government got all of the benefits and we took it in the

*#@^"! Or you might be thinking "We supported a VECP and the contractor ate our lunch on it"! In the short run these can happen. However, when they do, one side feels cheated and VECPs either don't get submitted again or they don't get approved. When either happens, we both lose.

Who makes sure that a win-win situation is proposed? It is the responsibility of the VE practitioner to ensure that a win-win situation occurs. You may rightfully believe that it should be done by someone else, but don't confuse "should" with reality. You can not count on anyone else to do it because no one else has the personal, professional and organizational ownership for the VE project that you, the VE practitioner, have. Therefore you must insure a win-win situation, otherwise battles may be won but wars will be lost.

Once you have determined to provide a win-win situation, a number of steps must be followed to ensure success. Steven Covey¹ talks about natural laws and how they always apply. The example he uses is what he calls the "law of the farm". Every farmer knows the critical steps in growing crops or raising livestock. Can any steps be skipped? If so then the harvest will be wiped out or at least significantly reduced. Steps can be added, modified, or enhanced at times, but the basic steps can not be left out or disaster will strike. The same is true with VE on government contracts. There usually are no contractual requirements on methodology, so it is tempting to skip or reduce steps, particularly in the beginning, because the payoff can take a long time and can be uncertain.

It is the customer who ultimately decides whether or not the VE action is successful. This leads me to the second best kept secret of VE on government contracts is:

YOU MUST SELL THE BENEFITS OF VE TO THE CUSTOMER FIRST!

This means the customer should be sold on the benefits of VE before you do any VE on your customer's behalf. This seems so logical, but so many of us either skip this step or delay this step until "we really need the customer's approval". "Selling" an idea and "selling" VE as a program and/or concept in the beginning, increases pressure because it increases expectations. However, if you need your customer's support (and you do whether you know it or not) you must sell the general benefits of VE as well as the benefits of at least one VE project, to give yourself the high percentage chance of success.

Once someone accepts the logic of the second best kept secret, a few questions are commonly asked:

1. Who is the customer? The customer is the individual who pays the bill and ultimately decides to approve or disapprove the proposed change. Sometimes it's more than one person. Find the person (people) who actually decide. That is the person (people) who need(s) to believe in VE.
2. Can't the history of excellent results sell VE to the customer? No! There are a couple of reasons for this. First, VE results are too good to be true! Really. Any Project Manager will find it hard to believe that you can take

investment capital and get at least a three to one Return on Investment (ROI). It doesn't matter how many examples you show him/her, it's pretty unbelievable. Many Project Managers cannot believe the results even after it happens on their own systems! Secondly, history is not personal enough. You need this Project Manager's support, not some historical phantom's support. Project Managers (and everyone else who holds purse strings) hear four to five times a day how someone can do great and wonderful things if they only had more money, more time, more people, and more support from the boss. Sell benefits to him/her first and then list the cost showing the value of the investment.

3. Whose responsibility is it to sell the benefits of VE to the customer? It's both the government and the contractor VE practitioner's responsibility to convince the customer that doing VE is beneficial to his/her project.

4. Why both? Both are required to gain true support. The Project Manager generally gets advice and direction from the government VE professional. He (she) must know that the members of his/her own team are competent and capable of handling the details of the VE improvement.

5. So how do you sell VE to the customer? There is no one answer for this question. However, things that have worked the best in the past include: presenting to the customer in person, summarizing how VE works, presenting general facts about past VE success stories emphasizing, projects similar to his/hers, and having one or more current ideas as potential future VECP(s).

6. How do I get ideas to present? The VE methodology generates ideas by identifying the cost drivers (where most of the money is being spent). In addition to that, almost everyone has ideas on things that can be improved. Try one that has a high chance of success to establish or reestablish a positive, successful climate for VE.

Once you have sold the customer on the benefits of VE and have a go ahead to pursue a VE project, use your established "beachhead" to empower you to capitalize on the third best kept secret of VE on government contracts:

TEAMING WITH YOUR CUSTOMER AND SUPPLIER SIGNIFICANTLY INCREASES YOUR CHANCE FOR SUCCESS.

Unfortunately, not many organizations follow this technique. I have often heard that the two biggest lies in government contracting are:

1. "I'm from the government and I am here to help you", and
2. "We're glad you are here".

Government people are apprehensive about participating because of the feeling that the contractor is being paid to deliver a high quality, low cost product. They shouldn't need help. Contractors are apprehensive about including government people because of the feeling that "Big Brother" is watching too closely as it is. Both sides are wary of hidden agendas from the other and old wounds that inevitably crop up. Legal people on both sides don't like it for fear their organization will be blamed if anything goes wrong. It's also more work. It requires more coordination and more discussion to arrive at a consensus. With all of these problems why team? In two words you team because "IT WORKS".

So now you have an enthusiastic customer, a good idea pre-sold, and a competent leader. Nothing can stop you now, right? Wrong! The fourth best kept secret is:

A QUALITY PROPOSAL COMES FROM A QUALITY TEAM.

Not a quality individual but a quality team. An individual can execute the job plan by seeking input from others, but it is generally inferior to putting a group together in a room to execute the job plan. Also, you must select the "right" team members to get the "best" proposal. How do you know how to select the best team members? There is no one answer to this question, but here are some guidelines:

1. Choose work groups that are 3 to 10 people. Any less than 3 will result in inferior diversification of the group resulting in fewer ideas and less discussion. More than 10 creates factions within the team and difficulty in achieving a consensus.

2. The VE Professional is a facilitator not a team member. The two jobs are different and generally it is disastrous when one tries to fill both roles.

3. In keeping with earlier points, it is best to include your customer in the work group. The best person is the decision maker, if it's possible. If not, then the decision maker usually has an advisor, an advisory board (like a Configuration Control Board or CCB), or a technical expert. Get them to participate. It may be awkward at first but workshops often make allies from the worst of enemies.

4. Make sure that the "most affected person" is on the team. The "most affected person" is the one that has current ownership of the hardware, software, process, or whatever is being studied.

5. It is generally best to include someone who can help with "selling" the proposal. Sometimes it is someone who has influence with decision makers. Sometimes it is someone who controls contracts. This is a judgement call.

6. It is generally best to have a cross section of skills. Make sure each team has the necessary technical expertise to adequately address the issue. In defense, the logisticians are commonly left out. Don't make that mistake.

Once the teams have been set and the project selected, the hopes and expectations are high and the focus inevitably turns to "when are we going to see results"? Time pressures begin to mount and everyone looks for a shortcut to the finish line. The fifth best kept secret of VE on government contracts is:

THE SUCCESSFUL WORKSHOP REQUIRES A SUCCESSFUL PREPARATION.

Some people call this pre-workshop activities. What are they? Again there are no hard and fast rules but some guidelines are:

1. Get the boss on board. Whoever is considered "the boss" needs to endorse the effort and task the team.

2. Generate a "mission" statement. What is it that you want the team to do? What are the end points? What is the success criteria? What are the benefits for each individual, the team, the organization and the customer? You answer these questions in the mission statement.

3. Establish the boundaries and baselines. The boundaries are sometimes called constraining factors, sacred cows, paradigms, etc. They define the parameters from which you can operate. Many people think that this exercise would be limiting, particularly in the speculation portion of the job plan. However, my experience is that if all of the team members list their "perceived" boundaries, only about one third are real boundaries. Working this as an issue before the workshop enhances the possibilities by unlocking the minds of the team members and therefore enriches the possible solutions. The baseline is generally the "current" design or practice. Putting the baseline on paper starts the team members thinking about the project and provides a common starting point.

The sixth best kept secret to doing VE on government contracts is:

THERE ARE THREE WAYS TO HAVE A SUCCESSFUL PROJECT:

- FOLLOW THE JOB PLAN,
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It is so tempting to skip steps in the job plan. A VECP does not require that the job plan be used. Most companies do not require that the job plan be used. The job plan often requires long hours of painful data gathering and analysis. Workshops are often grueling and raise many more questions than anticipated.

Personalities can become issues as time progresses. So why stick so arduously to a job plan that was invented in the 40's? Because each step of the job plan is critical to achieving the "best solution". I have seen many approaches to the job plan. My job plan consists of the following phases:

INFORMATION PHASE

SPECULATION PHASE

ANALYSIS PHASE

DEVELOPMENT PHASE

PRESENTATION PHASE

Function Analysis, done during the Information Phase, insures that the right problem is solved or the right opportunity is seized. If the basic function is focused upon, then problems don't reappear later and there is an order of magnitude increase in the number of ideas generated during the speculation phase. Complete analysis of the alternatives insures that the "best" candidates are developed and proposed. Consensus gathering during each phase insures that the proposal has widespread support and will be implemented. Not using all parts of the job plan does not make the personalities, hidden agendas, and other problems go away, it just means that they will be dealt with during the workshop rather than surface at a later time when it is more difficult to handle. The bitter taste of a failed VE effort lingers on, long after the sweet taste of a quick answer is gone. Do you have to use the job plan? No. Is it easier to use the job plan? No. Will the workshop participants want to use the job plan? Not necessarily. So why use the job plan? Because it works!

If a workshop format is used, it is not unusual for the workshop to end before the development phase is completed. Many workshop participants are so enthused at the end of the workshop, they can't believe that anyone in their right mind would object to the team's solution. However, the decision maker(s) generally are not in the workshop and do not always share the same enthusiasm as the team will. So the seventh best kept secret of doing VE on government contracts is:

PRESENT THE SOLUTION(S) IN PERSON.

"Paper graders" find it easy to say no. Some take a lot of pride and pleasure in saying no. On paper, objections tend to be vetoes. In a group, objections tend to be negatives weighed against positives for a recommendation. Additionally, Pete Drucker² once said "Any time you have more than four people together in a room you have a hopeless bureaucracy. Whenever anything ever gets done in any organization, it is the result of a monomaniac on a mission." Presenting in person allows for the champions to be identified. A government champion and a company champion need to be identified, or the chances for success are greatly diminished. Generally the champion(s) are the "most affected person(s)". That's why I mentioned earlier that it is a good idea to put the "most affected people" on the study team. Presenting in person also forces a decision to be made. The government has the reputation of not making a decision and/or asking for so much more information it delays or kills most proposals. A government champion and a presentation generally take care of these problems.

When a VECP has been submitted to the government, it still requires attention. This leads me to the eighth best kept secret of doing VE on government contracts:

FOLLOW THE VE CHANGE PROPOSAL THROUGH THE GOVERNMENT PROCESS.

You must know the process and periodically ask about how the VECP is progressing to insure timely settlement. How do you know the process and what is timely settlement? Flow charts vary from installation to installation. However, flow charts are typically available for the asking. Submission of the VECP is to the contracting officer who performs some legal and contractual checks. Then it is passed to the Project Office for evaluation. The Project Office will generally convene a group of technical people, the CCB, to recommend acceptance or rejection of the Proposal. The Project manager then makes a decision to approve or disapprove the VECP and sends it back to the

contracting officer. This is commonly called the technical approval. If you hear that the VECP has been approved, recognize that you are still legally bound by your contract until the contracting officer states otherwise. That happens after the contracting officer gets appropriate pricing and audit functions performed and negotiates settlement.

Attached are graphs that show the average processing time in calendar days from the formal submittal of a VECP to contract change order.

The first is MICOM and the second is for the larger U.S. Army Materiel Command. The processing time has been the subject of a lot of work in the last several years. I am sure that other parts of the Army and the other services have different processing times. The best way to get names of people responsible for processing the VECP is to contact the VE Office at the contracting installation. They not only know the people, they will usually help to shorten the cycle time.

The ninth best kept secret of VE in government contracts should be a surprise to no one:

PERSISTENCE PAYS OFF

This is true of most parts of government contracting. However, there is more to it in VE. Rudyard Kipling³ once said "Success and failure are impostors". Taken literally, this statement does not make sense. However, in VE, if you are 100 percent successful, you probably have not achieved all that you can. In other words, you're not trying hard enough. There is more potential than you are capturing. Additionally, it's a well known fact that we learn more in failure than we do in success and too much success breeds over confidence. However, if there are too many failures (sometimes just one is too many in VE), most companies will not do VE very long. Therefore, the VE practitioner is constantly under pressure to produce or be out of a job. So what's the answer? Try to be 100 percent successful but critique each action to gain from actions done well and lessons to be learned. Additionally, learn from other people's mistakes, you don't have time to make them all yourself! Seek to continuously improve. Those that do will be doing VE for a long time. Also, recognize that to do this (continually improve, critique, be close to 100 percent successful, etc), requires a skill I call "persistent patience". You have to be persistent but realize that change, even when it's an improvement, generally comes slow. Many successes will mount to an evolution, not necessarily the revolution we would all like to see.

The last secret begins with a parable. There once was a man who was granted a wish by God. The man wished that he could do good without knowing it. God granted him his wish and things worked so well that God granted the same wish for everyone. The 10th best kept secret of VE in government contracts is:

IF YOU DO YOUR BEST AT VE ON GOVERNMENT CONTRACTS, YOU WILL NEVER KNOW HOW MUCH GOOD YOU WILL DO.

For every VECP that is accepted, there are several (maybe hundreds) of ideas, questions, and thoughts that are raised by professionals that spark other thoughts and other improvements. Just by asking the why and how questions, we frequently ask out of habit, creates endless opportunities for continuous improvement, even if direct dollars are not saved. Additionally, out of all the VECPs that are accepted, about 80 percent have other value to them in addition to saving money. Countless performance enhancements and schedule improvements owe their existence to VE. Many studies begin with the intent of saving money. However, when all of the alternatives are weighed, the best solution may cost more money but still provide the best value for your customer. In this case the result is not a VECP but may be an ECP or an internal company change.

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3. Rudyard Kipling quoted by Dr. James Tew in a speech at the U.S. Army Missile Command, November 29, 1993.