MANAGEMENT ASPECTS OF VALUE ANALYSIS

VALUE ANALYSIS IN TERMS OF THE THINKING OF MANAGERS - NOT DOERS

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Outline

1. Why Value Analysis
2. How Different
3. What Do I Do
4. What Problems
5. What Results

Why Value Analysis

Product, Service or Process Leadership
Requires Performance Leadership
And Value Leadership

Performance is measurable by test
Value is not

Results:

Large amounts of Unnecessary Cost

Six principal reasons why large amounts of Unnecessary Cost Exist:

1. Lack of essential information at the time decisions were made, usually lack of knowledge that the information exists. Roll Acme Thread
2. Lack of the specific idea that would make possible Production of the item for much lower cost. Cal-Rod
3. Decisions based upon the honest wrong beliefs which each responsible decision-making person progressively accumulates. Weld Segment
4. Decisions originally forced by temporary circumstances continue non-functioning unnecessary costs—years after the temporary circumstances have ended.  
Filter Circuit - Disposal Stud

5. Decisions based upon habits of the people involved, of the area involved, built into the drafting and methods systems, built into the machines and tooling, into supplier relationships, and others.  
Cement or Earth Fill

6. Normal attitudes which support the continuation of existing habits and the acceptance of "roadblocks" continue a pre-disposition to always react to a set of circumstances in a pre-determined manner.  
Kirksite Cam

Less than best work in any function along product development-design-manufacturing cycle, lowers value

Value not instantly demanding like Performance, Shipments, Quality—Loses out in Competition for Managers' Attention and Action

Management, which does not understand this and face up to it—Has abdicated an Important Responsibility Area

In Military, "Value" is Quantity  
Traditionally, military gear is Performance-Engineered  
Now to provide Adequate Quantities—it must also be Value-Engineered

Research and Development (Performance Engineering) is bought  
Value Engineering (Identification of Unnecessary Costs) must also be bought

Are now forced to produce fantastically costly Performance Engineered almost "bread box" model weapons in quantity, because "Quantity" (value) engineering is not done.

When Value Engineering is also Integrated and Accomplished, 3 weapons will result instead of 1 for the same cost

Military Services are developing Incentive Contracts  
To pay for Good Value Engineering in areas requiring specification change

How Different

Certain Management emphasis, time and resources allotted to Cost Reduction  
Industrial Engineering
Design for Cost --
Are well defined familiar and necessary activities

Continue to do -- and do better!

Techniques of Value Analysis are
A New Group
from all Technologies
in a Special Package
Including Special Knowledge to
Identify Unnecessary Costs Sooner

Total Quality and Reliability Maintained

Three of 20 Techniques are:

1. **Identify Function**
   
   Example: 200 Gallon Gas Tank

2. **Evaluate Function by Comparison**
   
   (Develop Alternates -- dozen techniques)

3. Typical one of the dozen:
   **Blast -- Create -- Refine**
   
   $20 for 4 Barrels
   Treat for Corrosion
   $60
   
   Result: $60,000 for the 1000 Procurement
   instead of the intended $520,000 for
   the Specification Tanks

It is important also to recognize money should be paid for only two
classes of function:

Those classes which cause the product to work
Those which cause it to sell

First may be called "use functions" or "values"

Second may be called "esteem functions" or "values"

Because Value Analysis work has

A Different Work Content
It Identifies Startling Results --
Not 10% to 20%
But 40% to 75% of the cost as unnecessary
Your responsibility to see that
   If name Value Analysis is used
   New Work Content Is Added
   Using a New Name on Old Work Content
   Brings disappointment
   Kills the Potential

What Do I Do

Traditionally, Purchasing Management and people have done:

1. The performance part of their inside job, i.e.,
   Suitable Deliveries
   Control of Inventories, Etc.

2. The Value Part of their outside job, i.e.,
   Appropriate Prices
   Through Vendor Selection, Quotations, Etc.

Traditionally not done is:
   The value part of the inside job, i.e.,
   Identifying Functions Required
   Providing Value Alternates to Engineering and
   Manufacturing People
   So that they will make different decisions --
   Allowing Purchasing to buy totally Different Materials
   To Accomplish the Full Function
   For a Small Fraction of the Cost

Must Recognize and Compensate for Problem Areas in Value decision making:

1. There is no Profit Accountability in Measurable Terms
   below the General Manager or President
   Engineer Definitely Responsible
   For Performance, Quality, Etc.

   Manufacturing Definitely Accountable
   For Shipments, Prescribed Quality, Etc.

2. Others in organization do not know or believe
   large amount of unnecessary cost exists --
   Do not have System to handle it

3. Learn enough about Techniques and Special Knowledge
   of Value Analysis to
   Administer A Program

4. Study Management Decisions in Your Area Affecting Value
   Be Prepared to Recognize and Adjust for
   a. Decisions easy to make wrong --
      Hard to make right
b. Sound general criteria
   Often do not fit the specific

c. So-called "decisions" become routine
   Actions always follow in a prescribed pattern

d. Short range factors outweigh long range factors
   To a totally unproportionate degree in
   Decision making

e. Decision making is
   Choosing Optimum Shades of Gray

f. If Value Analysis Program has not started--
   Start a good man or men
   Caution --
   The first man will type the
   whole activity

   Be sure they are good men
   Get them trained
   Start them small --

   Every Big League Ball Player started
   on the sand lot

   Support them inside the company
   They will "make out" well outside

What Problems

There are Two Jobs:
1. Identification of Unnecessary Cost and
2. Decisions and Actions to Put the Value Alternates Into Effect

Techniques and Knowledge of Value Analysis are for Identification Only
   A Necessary First Step --
   Decision and Action become the Big Job

Measurement --
   Do not measure the two types of work, i.e.,
   (Identification and Action in series)
   This is worse than no measurement
   A poor action "channel" gives a Faulty Low Measurement
   No measure at all of grade of Value Work being done

   A good action "channel" gives a Faulty High Measurement
   Again, no measure at all of grade of Value Work being done
Experience shows Large Savings Require Engineering Actions --
  Purchasing Starts --
  Engineers Pick Up --
  Change Drawings --
  Make Tests When Necessary
Better Answers provide Performance More Reliably
At Costs often 1/2 to 1/3

Until Management Understands
Engineer will be belittled

Manager will say --
"Poor Engineering First Time"
Manager is wrong
But doesn't understand

Engineer requires assistance
If High Degree of Value is desired

Experience shows Decisions of all people
Are Made on a basis of avoiding personal loss

Must create situation which brings no personal loss
to technical people
When Better Value Alternates are Developed and Used

All Men and All Activities Are Typed --
Must Untype and Retype

Top Management Understanding is The Key
Finance Man not belittled by use of Tax Consultant
To Minimize Unnecessary Taxes

Engineer not belittled by use of High Temperature
     Metallurgist
To bring essential technical knowledge --

But at present Top Management has wrongly
Typed Technical People --
Expect that they can get Reasonable Performance
And also Good Degree of Value

Management must Untype and Properly Type Technical People
Then no personal loss to Technical People
When Value Consultants are used --
And Much Higher Degree of Value Will Result
What Results

Job Stretch --
   Large Additional Contribution
   Someone will take Leadership in Higher Degree of Value
   Should It Be You?

Return On Resources Invested --
   Experience shows that
   Adding at a ratio of 1 man in an organization of 10
   Will pay expenses of the man
   And liquidate the entire Materials Department Cost

Other Functions will see the Results
   And Want the Value Consultants in their area

If Significant Expenses or Costs are Affected --
   A Significant Increase in Company Profits will result

Much Increased Job Satisfaction

In Conclusion --

   Now seems to be the time
   For a Much Better Degree of Value
   In the Military, Value Means Quantities

   Both Performance Work and Quantity Work
   Are Now Mandatory

   In the Civilian Area --
   Products are maturing --
   Startling Performance Innovations are becoming fewer

   The Degree of Excellence of Value Work may well determine
   The Degree of Success of the Business