

# MANAGEMENT ASPECTS OF VALUE ANALYSIS

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

By L. D. Miles  
Manager, Value Analysis  
General Electric Co.

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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