

# VALUE ANALYSIS

How Purchasing Can Lead  
The Way to Bigger Profits

1957

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# The PA's Big Opportunity

**V**ALUE ANALYSIS is on the march in American industry. And the PA who fails to get in step with it will be left far behind in today's competitive world.

It has been a mystery—particularly to those who have used it successfully—why value analysis took so long to catch on. The idea of having an organized program to seek the lowest cost that must be paid to accomplish a function is a natural for purchasing. The most brutal answer probably is that many purchasing people sought to hide their own ignorance by making public statements like “value analysis is only for big companies”; or, “it's something corporations use only in lush times when they have plenty of money to throw around on so-called experts.”

It's more probable, however, that foot dragging on value analysis is due more to general inertia and uncertainty as to just what value analysis is and how to use it. The articles in the following pages are designed to overcome those handicaps—to define value analysis, explain its ramifications, and present a practical plan for establishing it as a continuing activity in any size company.

The section opens with an **Explanation of Value Analysis** (page 38) followed by specific instructions on **How to Analyze Component Parts—Materials—MRO Supplies** (pages 40-50). **How to Make Suppliers a Part of Your Value Analysis Team** appears on page 51. Advice on **How to “Sell” Management on Value Analysis** (page 56) leads logically into **How to Organize for Value Analysis** (page 60). A special article describes **How to Use Value Analysis to Fight Inflation**. The section closes with an examination of **Three Value Analysis Programs** that are now saving the companies in which they operate many thousands of dollars each year.

**V**ALUE ANALYSIS is the hottest thing in purchasing today.

Only five years ago relatively few companies had organized value analysis programs. Thousands of purchasing agents hadn't even heard of it—or if they had didn't show much interest in it.

Today, over a hundred companies have at least gotten their feet wet in value analysis—thousands more are trying to dig out more facts on it. Suppliers are getting on the bandwagon too. Resistance to value analysis efforts by customers on their products is giving way to wholehearted cooperation—salesmen for the most progressive companies are taking the initiative in suggesting value analysis ideas for their customers' review.

#### **What Is It?**

But there is a troublesome paradox in the midst of all this: value analysis is the area of their jobs that most purchasing agents are least sure of. Ask ten different PAs to define value analysis; you will probably get ten different answers—most of them a little vague. Almost

everybody knows it concerns cost reduction. And they also associate it with “tearing products apart to see if you're buying something you don't need.”

Value is concerned with cost reduction and with product analysis. But it's also concerned with much more. In fact its scope is so broad and its opportunities so nearly limitless that at least one purchasing agent calls it “revolutionary.” This PA claims that, because of value analysis, 1957 style purchasing will be as “obsolete as the buggy whip” by 1967.

His definition of value analysis is a broad one: *Value analysis is the study of the relationship of design, function, and cost of any product, material or service with the object of reducing its cost through modification of design or material specifications, manufacture by more efficient processes, change in source of supply (external or internal), or possible elimination or incorporation into a related item.*

Note one thing in particular about this definition. The word purchasing isn't even mentioned. Why? Because value analysis is not a purchasing function in the same sense that the buying job is. Value analysis can and should be performed on any item whether it's purchased or made in the shop.

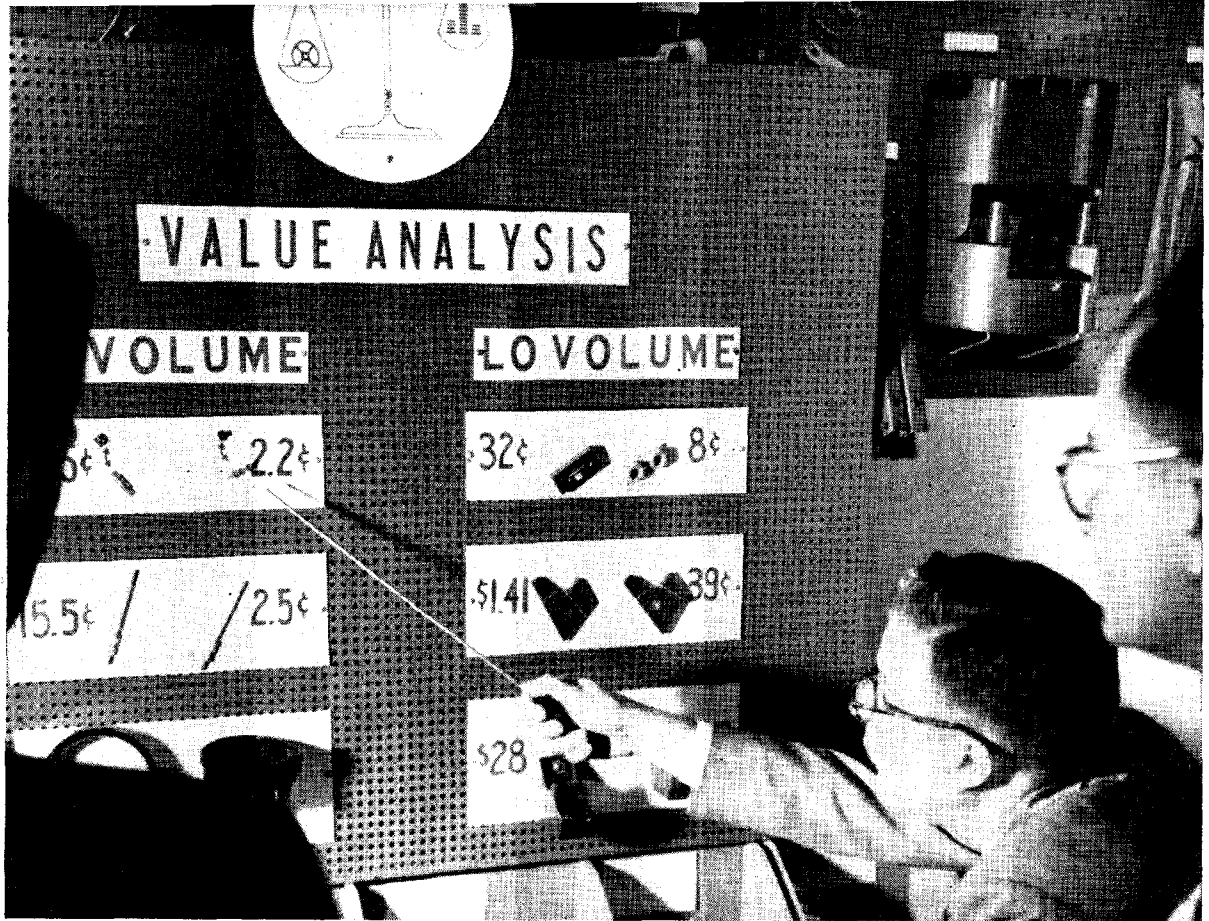
This broader concept of value analysis is now being put into practice in several companies. It's helping to change the basic nature of the purchasing function. Traditionally, purchasing has been regarded as the focal point of all relations with outside suppliers. The new approach is to regard purchasing as a *central watchdog on all materials costs.*

Here's how this new approach is being applied in one big multi-plant company. Each manufacturing plant is treated as a separate business. It “sells” its output to the corporation's assembly plants and is treated just like an outside supplier by purchasing. Like an outside supplier, the manufacturing plants' selling prices must be competitive and are subject to review by value analysts. The plants are visited regularly by both buyers and analysts and no one in purchasing hesitates to make suggestions for improvement. Thus, purchasing performs the “watchdog” function directly or indirectly on practically all expenditures in this billion dollar company.

But you don't have to work for a big multi-plant concern to apply the broader concepts of value analysis. It's being done in relatively small companies. In one of them, value analysis is a cooperative effort under purchasing's leadership. Serving on its “cost reduction committee” are representatives from product engineering, manufacturing engineering, cost estimating, and pur-

# What Value Analysis Is All About

**The concept of value analysis is so broad and so deep that it may obsolete present purchasing methods in the next decade. Purchasing agents should prepare now to meet the challenge by starting programs of their own. The going may get rough—but the pay-off will be impressive.**



The peg board demonstration is a vivid and compelling method for showing what value analysis has done—or can do. This is part of a display in General Electric's Value Analysis Services headquarters in Schenectady, N. Y.

chasing. The chairman is the company's value analyst who reports to the director of purchases.

The committee meets weekly. On the agenda for each meeting is a group of parts or materials—both shop and purchased. Members of the committee don't limit themselves to questioning prices or costs. They go after improvements in value and utility as well.

Recommendations made by the committee go to the appropriate department for action. Every recommendation must be acted upon. If the department concerned doesn't think the suggestion is any good, it must say so to the committee. Purchasing's value analyst bird-dogs open recommendations and work with the departments to help effect the saving. Some value analysis programs take in only purchased items—this one also helps keep the shop efficient and competitive on captive items.

These two brief examples of successful value analysis programs make it obvious that value analysis is worth looking into. Here's what it should do for you and your company:

1. Reduce the cost of both purchased and manufactured parts and materials.
2. Stimulate product improvement.
3. Give purchasing a chance to increase its

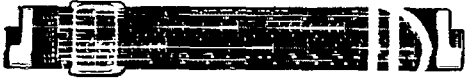
effectiveness and thereby get greater recognition by top management.

All this sounds terrific. Unfortunately, getting a successful value analysis program going isn't easy. Before you can even hope for success, you should know how to:

1. Choose the right value analysis techniques.
2. Sell management on a value analysis program.
3. Break down internal resistance to value analysis.
4. Select the right value analyst.
5. Organize for value analysis.
6. Make use of supplier know-how in furthering your value program.

The articles on the succeeding pages of this issue are designed to give you some ideas to help you get your program going. If the going gets rough, you've got this consolation: The editors of PURCHASING know of no established value analysis programs that have been abandoned. The pay off is just too big. Who would throw out a deal that will return \$10 in added profits for every \$1 that's spent on it? That, according to the "dean of the value analysts," General Electric's Larry Miles is about what a successful value program should accomplish.

## VALUE ANALYSIS



# How to Analyze Component Parts

**You can get big savings in analyzing components by using three different methods—the cost approach, the utility approach, and the commercial approach. Generally, you'll be using all three at the same time, but it's important to know when to bear down on a particular one for the greatest return.**

**T**HE BIG, spectacular savings from value analysis most often come on component parts for two very good reasons. First, component parts are the items most likely to be purchased in large quantities. Small unit savings can run up to big total savings. Second, most component parts are "custom-made" and can readily be changed in design.

Perhaps 75% of the total value analysis effort today is being devoted to component parts. As a result, there are probably relatively more opportunities for cost reduction in other areas. But the fact remains—component parts review is the most fertile field of value analysis.

There are three basic approaches to cutting costs of component parts—the utility approach,

the cost approach, and the commercial approach. In most companies, all three approaches will lead to lower costs.

### **The Cost Approach**

Most people think a price is a fair one if it isn't too much higher than cost. With the "cost approach" to value analysis, you weigh the cost of every alternative. Within the framework of the design concept, you consider various processes and manufacturing methods. Your basic yardstick is the cost estimate.

Here's how this approach works in practice. For any given item, you first determine the economic methods of manufacture. (Don't overlook some that may seem "uneconomic" superficially; you might be surprised.) There's more than one way of making practically everything. Many metal parts can be either machined from bar stock or from rough castings. Others can be either stampings or die castings or molded from plastic. Even if the basic process is the same, the cost picture can change with tooling.

For each process that is worthy of consideration, you make up a detailed cost estimate. There should be estimates of material cost, direct labor for each operation, overhead, and profit. In estimating, the concept of a "representative efficient producer" should be used as a standard. That is, you would try to use labor and overhead costs that are reasonably typical of the industry.

Obviously, you must know the operations involved before you can even start to estimate. That's one reason why it's extremely important that both buyers and analysts be familiar with suppliers' manufacturing processes. To make a fair estimate, you should assume that the item is made by a process which would be used by a moderately efficient producer. *Don't assume that the item will be made by the most efficient process available.* If you do and allow an average amount of profit, your estimate will be mostly wishful thinking. The producer that is the first to automate, for example, can expect a better-than-average profit for going to the trouble. And this is rightfully so since any innovation involves risk. So the best thing to do is process the job as though it were going to be made on equipment common to the industry.

One major weakness of the cost approach is that cost estimating requires so much skill. This is particularly true when the estimator is dealing with items that aren't even made in his own plant and for which he has little basic data. Even with these handicaps, however, a good estimator is usually amazingly accurate. Chances are you'll have to go outside purchasing to get someone with estimating skill. It is worth the trouble. An estimator can do more than just help select the most economic method of manufacture. His estimate also can be used as a target by buy-

ers. It can become an extremely powerful negotiating tool if used intelligently. And you get a chance to measure buyers' performance by their success in meeting or beating target costs.

### The Utility Approach

Cost isn't, of course, the only criterion of value. In fact, it's much less important than utility. If an item isn't useful in some way, no one will want it regardless of the cost of making it. The search for greater utility is really the most interesting phase of value analysis. The idea is to decide what function you want the part or product to perform. Then figure out how it can be done better at lower cost.

The utility approach to value analysis can be called "economic engineering." It's concerned with cost and with design. Unfortunately, good product engineers don't always make good "economic engineers." Product engineers, by training, strive to make products better and better from an engineering standpoint. "Economic engineering" strives to make them have greater utility per unit of cost. No one but a frog will pay a premium for a pen just because it will write under water.

Almost anyone can practice the utility approach to value analysis—buyers, suppliers, engineers, manufacturing men, etc. In some cases, ideas come directly from working with the product. Almost as often, they can come spontaneously in "brainstorming" sessions or more formal value analysis meetings. Excellent case histories of applications of the utility approach are found in the "Component Parts" section of this issue.

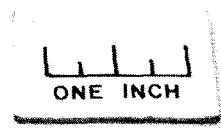
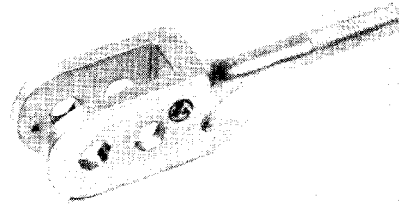
### The Commercial Approach

In the "cost" and "utility" approaches to value analysis, the purchasing man doesn't have too many natural advantages over those with other backgrounds. His imagination and cost consciousness are probably offset by his relative lack of design know-how. The "commercial" approach to value analysis is concerned with quantity ordered, standardization, source selection, etc. Needless to say, in this area, the purchasing man has no real competitors. He's in a class by himself.

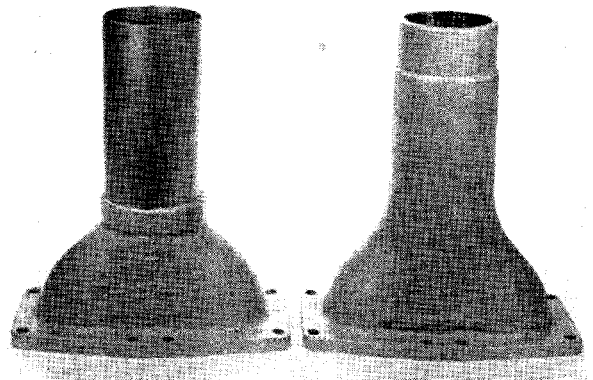
Many veteran purchasing men could quite rightly claim that the only thing new about the "commercial approach to value analysis" is the name. They would be correct. The techniques aren't new. Only certain applications are—including the way various approaches to value analysis are combined in actual practice.

In the "commercial" approach, you adapt the principles of the "cost" and "utility" concepts to the realities of the business world. For example:

1. Suppose a fractional horsepower motor is a component in your product. If a given type 15/64 hp motor just meets specification, then that's the



This part, machined from a forged blank, was being bought by General Electric's Evendale, Ohio, plant from an aircraft quality machined parts source. Quantities were small and the unit cost high. A supplier was found who was producing a similar part as a standard item—and supplied the part to GE's print by reworking one of their standard parts. The unit price is now only 27% of the previous price, and no special tooling is required.

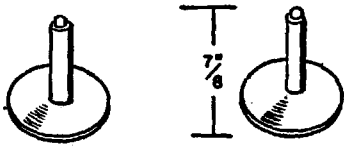


Caterpillar Tractor decided to change to a one-piece iron casting for this exhaust pipe "Y" joint. The former arrangement was a welded unit of steel casting for full production. The move cut the cost of this item by 30%.

motor you use—according to a strict cost approach to value analysis. When you get to the commercial approach, you will undoubtedly rule out the 15/64 motor and use a 1/4 hp job instead. The reason, of course, is that 1/4 hp is a standard—and probably made by your vendor for dozens of other customers. As a result, it will be less expensive—even though the smaller 15/64 motor should be cheaper from a strictly engineering point of view.

2. Suppose you discover you're using a machined casting that is much heavier and more costly than the actual functioning of the item warrants. Following the utility approach, you recommend that the part be made lighter to reduce cost. In this case you're wrong. It's true

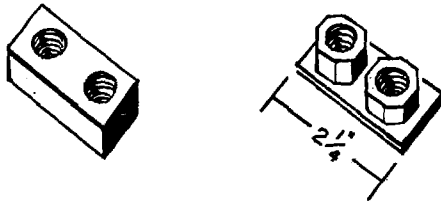
## Equal or Better . . . at Lower Cost



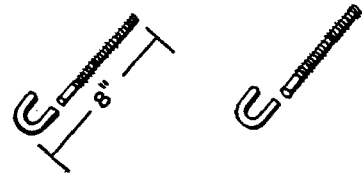
This push button was made as a screw machine part. Research among suppliers turned up one who could cold head the part from aluminum wire. Cost of the item dropped from 19¢ to 2¢.



Readily available zinc die cast nuts were successfully substituted for acorn brass nuts turned out on screw machines. Use of a standard reduced cost from \$12.24/M to \$5.76/M.



This machined clamp bar cost 32¢. The design was changed so that the item could be made from a stamping with two nuts resistance welded on. New cost: 8¢, plus \$350 for tools.



A rolled thread specialist studied this steel J-bolt—suggested the words “cut thread” be removed from the drawing. The part is bought now for 1.5¢ as against 11.7¢—an \$80,000 saving.

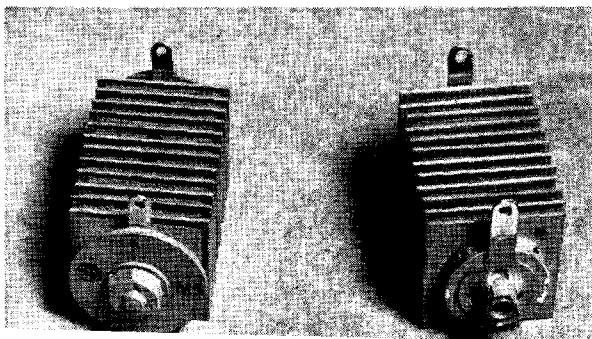
the extra bulk isn't needed for functional purposes, but it permits the part to be made more cheaply. With the extra bulk, the vendor can machine it with the same tooling used for similar parts. Since volume isn't too great, the saving from the lighter design would be more than offset by the added tooling expense it entails.

In practice, obviously, value analysis efforts are never broken up into three separate phases—cost, utility, and commercial. The three are used simultaneously by most analysts. They vary in relative importance with the products being analyzed. The commercial approach is always extremely important on purchased items however. It should play a big role in analysis of

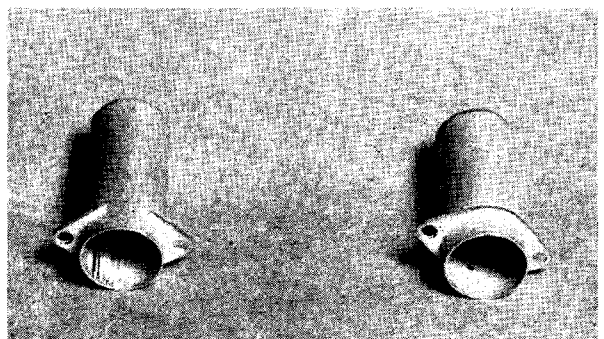
shop parts—particularly in “make or buy” studies. But often it is subordinated in such cases simply because important executives refuse to recognize it. By the same token, when engineering dominates an organization, purchasing and manufacturing don't get much chance at the cost and utility approaches.

As we will see in the two succeeding articles, the three value analysis approaches should not be confined to components. They can be used—sometimes with spectacular results—on practically everything that's purchased. The utility approach is particularly important when analyzing materials while the commercial approach dominates in the analysis of MRO items.

Stud mounted rectifiers like the one at left were used on a number of items made by General Electric's Specialty Control Department, Waynesboro, Va. It was found that tube mounted rectifiers could be used if the method of mounting were changed. Mountings were changed on a number of rectifiers of this type, with a saving of 29%.



The Specialty Control Department also used a tube and bracket assembly to enclose an aircraft relay. Holes in the bracket are used for mounting purposes. A major portion of the cost involved alignment of the brackets. The bracket is now made as a single piece. The alignment problem has been eliminated and the new part costs 50% less.





# How to Analyze Materials

**M**ATERIALS are no harder to analyze than components. However, different techniques must be used. Unlike components, the prices of most materials are set by the market. Only rarely can any one buyer influence them substantially. Nor is there much point to the buyer bothering about the cost of production of a given material. Unlike those of component parts, prices of individual materials often have only an indirect relation to cost of production.

Even if a buyer thinks the profit margins of certain producers are too high, there isn't much he can do about it. By the same token, the buyer of material sold on the open market shouldn't get concerned if the price is so low that many producers are losing money. The impersonal forces of the market will correct that in due time. When buying materials traded on an organized market, it's sound policy to buy at the lowest possible price. This isn't, of course, necessarily the case with component parts.

Even though there's relatively little opportunity for price negotiation in buying materials, there's still a superabundance of opportunities for profitable value analysis. Shrewd buyers can save by:

✓ **Being alert to market fluctuations.**

- ✓ **Making long range forecasts of price and availability.**
- ✓ **Substituting lower cost or "higher value" materials.**
- ✓ **Standardizing on a limited number of types and sizes.**
- ✓ **Carefully analyzing the price structure of the commodity.**
- ✓ **Checking related purchase costs—shipping, packaging, etc.**

## ***Are You a Gambler?***

Although most executives would deny it, any company carrying an inventory is gambling that future price changes won't force it to liquidate at a loss. The risk varies, of course, with the commodity and the product. One of the most volatile before the advent of synthetic was natural rubber. Whenever the bottom fell out of the crude rubber market, every member of the tire industry suffered serious losses, and a few even got pushed into bankruptcy.

Fortunately, most manufacturers don't use very large quantities of commodities that are extremely volatile price-wise. However, intelligent recognition of the speculative element in any purchase that isn't immediately re-sold can

**Substitution is one of the more dramatic phases in saving on materials—but it's not the only one. Analyzing for value in materials also takes in long range forecasting, standardization, market studies, and attacking related costs.**

help you make money. And the P. A. who ignores market fluctuations will inevitably lose money for his company (unless he's awfully lucky.) For example, there's almost no risk in assuming that steel prices will go up next month. Inventory policies should take this price rise into account and steel stocks should be heavier than usual.

In some cases, it takes keen analysis to spot a turn in the market. But there are tremendous opportunities for profit. For example, just a year ago, copper was at a modern record high of 46¢. If you, as a copper buyer, had moved to reduce your inventories to minimum levels, you would have made a lot of money for your company. But if you were wrong, you could have lost a lot of money. Deciding you were not a "speculator" and refusing to cut inventories would have been just as much of a mistake.

Fortunately, the price trends of many commodities are more predictable than that of copper. The P.A. that doesn't take advantage of them is foolish. For example, if every company in an industry announces a price increase effective a month hence, you don't have to be an expert crystal ball gazer to lay in a month's extra stock. By the same token, you should fight to keep stocks at the minimums consistent with economic order quantities when you're reasonably certain prices will either stand still or advance.

Keying buying policies to future price trends almost automatically solves shortage problems. When materials get tight, their prices go up. If your inventory is at a maximum then, you're in an ideal position in every respect. On the other hand, when materials are abundant, prices

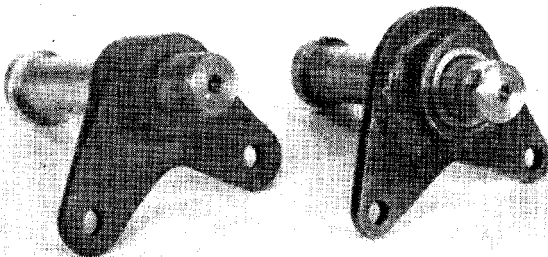
weaken and you "win" all the way around with minimum inventories.

It's tough to predict prices a year or two ahead. But it's often easy to predict what relative prices will be twenty or thirty or fifty years from now. To do it, all you've got to do is examine the basic supply and technological situation in the industry. Take fuel as an example. Usage of fuel oil and natural gas is growing at a tremendous clip and supplies (though large) are definitely limited. Coal usage is growing more slowly and supply, on the other hand, is almost unlimited. Presumably, there is also greater room for technological improvement in coal production than in natural gas or oil production. Thus you're led to conclude that the cost relationship between coal and competing fuels will change in the future. This doesn't mean that you should stop buying fuel oil. All it might mean currently is that when buying new heating equipment, you keep the possibility of a future switch to coal in mind. This same approach can be applied to any other competing commodities that you might use. For example, copper vs. aluminum; aluminum vs. magnesium; steel vs. aluminum and plastics, etc.

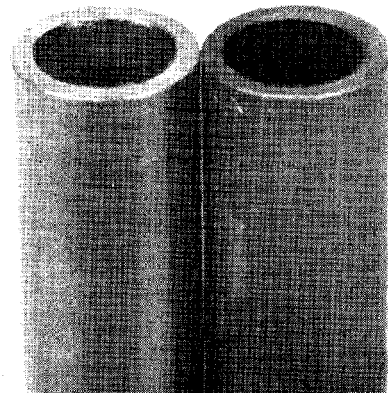
#### ***Use the Material that Costs Least***

Long range supply considerations may well influence choice of one material over another. But advantages from shorter term substitutions certainly shouldn't be overlooked. In some cases, a switch from one material to another is justified if a price differential of as little as 1¢ per pound lasts for just a few months.

Caterpillar Tractor switched from a welded assembly to a malleable iron casting for this tractor choke and throttle bell crank. A bronze bushing had been used to prevent corrosion between the unit and the steel pin. By chrome plating the pin, Caterpillar eliminated the bushing, since the plating did an excellent job of preventing corrosion. Over-all saving: 65%.



Steering clutch spring sleeves for Caterpillar tractors were made of seamless steel tubing, cut to size. They had a 5/8" bolt passing through, so the inner diameter had to be held to close tolerances and be free from burrs, etc. A welded tubing unit, flash removed, was developed. It was found acceptable and a 25% reduction in cost was achieved.



Price per pound isn't paramount, by any means, when considering materials substitutions. Polyethylene tubing costs more per pound than copper tubing but it's actually cheaper. The reason of course is that the cost per foot of polyethylene is lower.

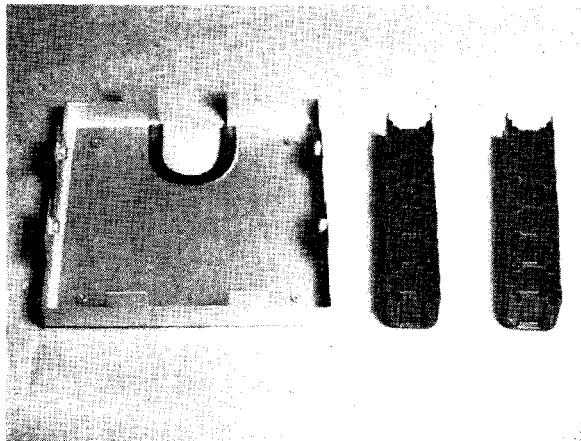
The newer materials usually offer the most opportunities for new cost cutting applications. One analyst makes a "mental review" of applications for each new material development he reads about. Any potential applications with promise are investigated. So far about eight investigations out of ten have been profitless; but the payoff on the successful ones has made the entire effort more than worthwhile.

#### **Standardization Isn't New**

PAs have been saving with standardization for years and yet there are as many opportunities to save with standardization as there ever were. The reason is simple: everything that's standardized is almost always, to some extent being "unstandardized." To clarify this, suppose that the number of types and sizes stocked of a given material was cut from 20 to 5. A legitimate need will probably be found for a sixth type in a year or so; later a seventh will be added; then an eighth. Eventually, "legitimate" increases will carry the usage right back up to 20 types and sizes.

A big part of the "unstandardizing" process is economic at the time. A temporary increase in usage or a change in price can make it worthwhile to deviate from the limited standard. Some-

The metal terminal cover at left was formerly used by General Electric's Specialty Control Department to enclose two terminal boards mounted on an aircraft voltage regulator. Investigation showed that two molded rubber covers would perform the function at a cost of \$1.14, a 48% reduction over the former cost of \$2.20.



### ***A Closer Look at Materials . . .***

brought about substantial cost reductions for a well-known aircraft firm. The director of purchases tells the story this way:

"Certain requisitions specified first grade hard maple, select K/D S2S1E, to closer than standard tolerances. After studying the requirements of the job, we urged a change to select fir to standard tolerances, with a gross saving to date of over \$82,000. After deducting the cost of milling in our own shop, the net saving is still in excess of \$75,000.

"Specifications for plastic tubing called for a manufacturer's standard number. We learned that the basic material was cellulose acetate butyrate, which the manufacturer secured from a basic producer. By going to other customers of the basic producer, we secured approval of a substitute (actually the same material) at a saving of 63¢ per foot.

"Original specifications for certain glider type plywood requirements specified AN-NN-P-511. We analyzed the requirements and concluded that five-ply exterior grade (at a saving of \$63.86 per hundred square feet) would do the job. After testing samples, engineering approved. Total saving to date: over \$95,000."

times if the economics are favorable long enough, the deviation becomes the new standard. But the old standard item is rarely if ever abandoned except in standardization "drives." That's why standardization effort can profitably be made almost every time a requisition is issued.

#### **Analyze Each Element of Cost**

Closely related to standardization is analysis of the price structure. With most commodities, the bigger the quantity purchased, the lower the unit price. One of the major benefits of standardization programs is that they help increase purchase quantities.

With some commodities, about the only way you can reduce the unit price is by increasing the quantity purchased. With others—steel being a good example—the pricing structure is more complex. A good steel buyer can make all sorts of saving by knowing the ins and outs of steel's price structure.

To analyze steel (or any other material with

a similar price structure), here are six rules you should follow:

1. **Look for some other material that will do as good a job cheaper.** (The odds are heavily against you here but it's certainly worth a try).
2. **Make sure you're buying the lowest cost type of material.** (e. g. if you're using strip steel, would it be cheaper to buy sheet and slit it?)
3. **Buy the minimum quality for the job.** (If you don't need drawing quality, why pay for it?)
4. **See if you can eliminate a fabricating operation by buying a higher cost material.** (Pre-polished stainless sheet, for example, reduces hand polishing in the shop).
5. **Don't overlook a lower cost source for the material.** (Possibilities include using offal, buying from companies that will "forget" to charge certain extras, etc.)
6. **Look for savings by buying the material in a more basic form.** (Some companies claim big savings by doing their own pickling and oiling of steel sheets and plates; others prefer to buy strip and fabricate their own tube rather than buy semi-finished tube.)

### Don't Forget Related Costs

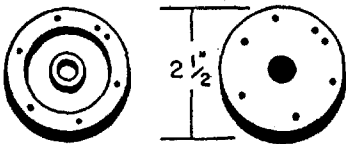
The cost of some materials is more than doubled by shipping and/or packaging charges. Fortunately, there are plenty of opportunities to cut such charges if enough perseverance and imagination are applied. The best way to approach these charges is to make it your objective to get the material from the vendor's plant to its ultimate point of use **in your plant** as cheaply as possible. With this approach, you won't be cut-

ting packaging cost by 50¢ only to increase internal handling cost by \$1.00. Here are some avenues to explore:

1. **Ship by barge whenever possible.** As a rule, the reduction in cost will more than offset any increases in inventory that might be entailed or any special arrangements that must be made to accommodate water shipment.
2. **Keep LCL and LTL shipments at a minimum.** Mixed cars and pool cars are two ways to do this. Sometimes it even pays to carry bigger inventories to cut shipping expense.
3. **Don't give up looking for lower rates.** Here is where your traffic man comes into his own. Analysis of freight rates is an art in itself and the results are sometimes amazing.
4. **"Downgrade" your packaging whenever possible.** As a rule, wooden boxes and barrels cost more than those made of corrugated. Paper bags are cheaper yet. And the ultimate is bulk shipment. The cost of the package itself doesn't give the final answer, of course. Durability, handling, etc. must also be considered.
5. **Don't ignore handling costs.** Packaging changes that permit material to be handled more easily by your own plant personnel are often economic even though purchase order costs are higher.

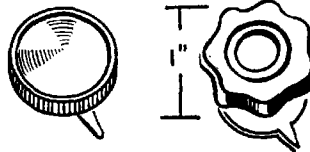
There are, of course, more than five ways to cut packaging and shipping costs. The shrewd purchasing man makes use of specialists. He goes to the company metallurgist for ideas on materials specs. He consults with the packaging engineer on his specialty. The modern executive—purchasing or any other field—doesn't hesitate to use the talents of the specialist.

### A Switch in Material . . . .



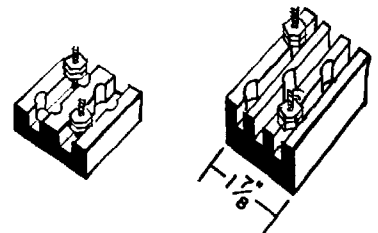
. . . from machined steel to an available aluminum disc, drilled, for this dial hub

**SAVED: \$1.14 per item**



. . . from aluminum in this special knob to a standard plastic-metal unit

**SAVED: \$2.00 per item**



. . . from machined asbestos to molded porcelain for this terminal block

**SAVED: \$2.39 per item**

VALUE  
ANALYSIS



# How to Analyze MRO Supplies

**Your dollar volume of MRO purchases may be relatively low—still the chances for saving are many. But you need an orderly approach to select the best value targets among the thousands of items you buy. Here are nine practical steps you can take.**

**I**NDUSTRIAL purchasing departments handle more maintenance, repair, and operating supplies than anything else. In some departments, 90% of the purchase orders typed are for MRO items. Even though they often comprise only 20% of the department's dollar volume, they're extremely important costwise. And, contrary to what many scoffers think, there's no end of opportunity for saving through value analysis on MRO.

In many respects it's easier to save with value analysis on MRO than on components or materials. In the first place, the techniques of analysis are simpler and easier to apply. A "common sense degree" is as good or better than any other when it comes to cutting costs of MRO items. Secondly, fewer departments get in the act on MRO. As long as you keep the user happy, there's no limit to the changes that can be made. It's different on production parts and material. When the end product is involved directly, almost everyone but the sweeper has some say in the final decision.

### **Getting Started**

The toughest thing about analyzing MRO is literally deciding on what to analyze. You have thousands of different items you could look at.

The trick is to select the most promising. One way to do it is to survey requisitioners and ask them to select the items they are *most* satisfied and *least* satisfied with.

One successful analyst used this approach to get leads on promising projects. When requisitioners were delighted with an item, it occasionally meant that salesman was doing a good "back door" job and an average product was being sold for greater-than-average price on a personality basis. Or it could mean that the requisitioner got a product that was basically too good for the application to which it was being put. Most items in the "most satisfied" category were left untouched by the analyst, of course. After all, he wants the requisitioners to be happy—as long as it isn't costing too much!

"Least satisfactory" items all warrant investigation. Everything should do the job for which it is purchased. If it doesn't, purchasing should find out why. In some cases, purchasing paid for a higher quality of merchandise than what was actually received and accepted. In other cases, the wrong item was being bought for the stated need.

When you're working with MRO items, be selective or you'll find yourself spending time

on items that just aren't profitable. If, for example, you buy one steam trap every few years, there's not too much point in making an elaborate study of steam traps. The savings won't offset the value of the time that has been spent in making them. In this case, normal good buying practices are entirely adequate.

### **A Practical Program**

In one company with a highly successful value analysis program on MRO, practically the entire effort is devoted to the 20% of the items that comprise about 80% of the dollar value. Periodic special studies are made of the high dollar value items. One over-all review of drills and reamers helped reduce costs \$9,000 per year. Another on oils saved \$17,000 per year.

These substantial savings were, the company reports, remarkably easy to achieve. The only qualities needed were "an orderly approach and a lot of 'horse sense'" says the company's PA. Here's what the "orderly approach" involves:

**Accumulate Purchase Orders.** Save copies of all orders issued in the last six months for the commodity you're going to analyze. Break these

## **Value Analysis Applies to More Than Production Buying**

**Manager of Purchases C. S. Perkins, Union Oil Company of California** reports that his buyers have done excellent work on value analysis, despite the fact that purchasing at Union is on an MRO basis, rather than for line production.

He offers these two examples:

"1. Our marketing department standard called for an indicating light on turbine pump dispenser units. The light was installed by the contractor at the time the service station was built—at an average cost of \$20 per station. A buyer worked with gasoline pump manufacturers on incorporating the light as an integral part of the unit. All manufacturers now provide such a unit with U.L. approved light at no extra cost. So \$20 is saved on every new or remodeled service station.

"2. Our refinery was using stainless steel burner nozzle tips purchased from the original manufacturer to the extent of about \$6,000 annually. Our buyer persuaded the refinery to try out a hexagonal head, 1/2" Type 304 stainless steel pipe plug bored with a 9/64" orifice in the center. This was rejected by the operators, as the head projected beyond the area of the round plug, creating turbulence in the heater. Square head plugs were tested and work entirely satisfactorily. Result: an annual saving of \$4,590."

orders down into some sort of order. Use manufacturers catalogs as a guide to the most efficient way to segregate the commodity by type, size, and specification. *Be sure to put all orders for identical items together.*

**Study the Product.** If you don't know enough about the commodity you're analyzing, then read up on it. Visit one or two vendors' plants if they're conveniently located. Familiarize yourself with the industry's pricing structure. You should know exactly where quantity price breaks occur and also have a feel for the state of competition in the industry.

**Study the Application.** In most cases, of course, it's rather obvious how the commodity is being used. Hand soap is used for washing the hands, etc. But if you're buying three different grades of hand soap, you might want to find out why. Or, if hand soap is being used for some purpose other than washing the hands, that's also worth knowing.

**Analyze Frequency of Purchase.** In many cases, you can get a more economic order quantity without using any formulas. In general, if you're issuing more than one order a month for any MRO item, you should start grouping your orders. In smaller companies, this minimum might be once every two or three months. Also, if you're ordering similar items on separate orders, you might consider grouping them. You'll probably even discover some items that you're buying too seldom. In very few cases does it pay, for example, to buy a year's supply when the value of the order is much over \$100.

**Check the Price Trend.** Comparing prices of like items can lead to a wide variety of savings. If prices tend to fluctuate seasonally, you might want to change the pattern of purchase. If one source is consistently cheaper than another, for identical items, your action is rather obvious. If the price for one particular grade or size seems out of line with all the other grades and sizes bought, there are a number of possible solutions. You might look for a new source for that particular grade or size. Or you might see if you can get along without that particular grade or size. In some cases, you'll find you can.

**Investigate New Products.** In a few cases, you'll find that a new product has been introduced that will change your whole pattern of purchase. If you're reviewing your purchase of brooms, for example, you should be sure to check powered floor sweepers. Or if you're reviewing replacement motors for machines, you might want to check the advantages of a d-c power supply. A "new" product need only be new to your company; it need not be new to industry in general, of course.

**Review Source of Supply.** Usually it's economic to buy MRO items from an industrial distributor. Occasionally—particularly if usage is heavy—it pays to buy direct from the manu-

facturer. In practice, you'll rarely want to switch basic source of supply (from distributor to manufacturer or vice versa). But you'll certainly want to take a close look at how business is dealt out to directly competing sources. If all your local vendors are competitive with each other, you might want to check an out-of-town source. This is particularly true if you live in a smaller city where there are but one or two local sources. One buyer cut his lumber costs 15-20% with this approach. Two individuals owned every lumber yard within 50 miles of the buyer's plant. With this local monopoly, it paid to have lumber shipped in from a city 65 miles away.

**Work Out Special Deals.** One of the easiest ways for a big multi-plant company to save money on MRO is by setting up contracts to cover the corporation's total usage of a given commodity. Dozens of big firms buy lubricants and light bulbs on a national contract basis. Fuel contracts are also quite common.

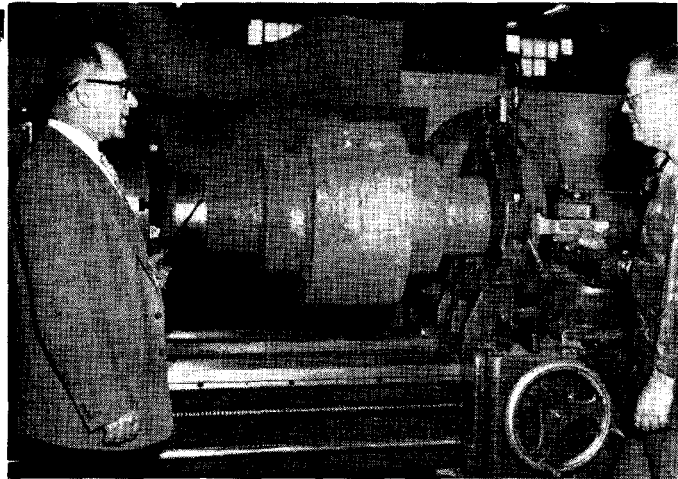
A similar time-tested technique for cutting costs is a simple matter of negotiation and verbal agreement. With it, you agree to purchase all or a given percentage of your total requirements from a given distributor. In turn, the distributor agrees to certain price concessions. This technique is particularly useful where there's little or no price competition. Included would be products restricted by "fair trade" agreements and those usually made by a very limited number of manufacturers. Distributors are usually much more responsive to competitive pricing pressures on MRO supplies than manufacturers—so it will be easier to work out a satisfactory arrangement with them.

**Make Periodic Studies.** It's difficult for anyone to control usage of many MRO items. And there is no foolproof control at the user's end. The supply of company pencils drops when the sons and daughters of employees start back to school in the fall. There's always some shrinkage on portable tools. Purchasing is one of the best vantage points to spot a usage trend that is getting out of hand. Comparative studies on two supplies will often provide a clue. If there has been a rise that isn't justified by additional output, some investigation is needed.

#### **Other Techniques Also Apply**

The company program described above is a good one but it's not the only one. The same general principles of value analysis apply to MRO as much as they do to production parts and materials. You can read the preceding articles on analysis of component parts and materials with profit even if you're interested only in MRO. The best value analysis program is one that's custom-made. All the articles in this issue are designed to give you ideas to help you develop a program to suit your specific needs.

The number of value analysis techniques are actually limited only by the ingenuity of those

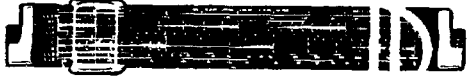


Above—T. C. Lavinder (left), purchasing agent, Division of Materials, Wilson Dam, and W. G. Lucas, machinist watch a rough cast guide roll, used in supporting a nodulizing kiln, being machined to shape. Purchased as a repair part, it cost approximately \$2180. Bought as a rough casting and machined in the shop, it costs about \$600.

Below—Mr. Lavinder and O. E. Elliott, chief, Warehouse Section, Division of Chemical Operations, examine a bronze bearing for a rotary kiln. Value analysis helped locate a supplier who can make the bearing for 45% less than the equipment manufacturer charges for it.

applying value analysis. One analyst, who wishes to remain anonymous finds a Sears, Roebuck & Co. catalog very helpful when reviewing certain MRO purchases. Sears rightly deserves its reputation for low retail prices. This analyst figures that whenever his price isn't at least 15% below the Sears price, investigation is definitely called for. Another analyst who works in a big defense plant has access to the price list of the General Services Administration. He considers the GSA price par and tries to keep under it as much as possible. However, as in golf, the man doing the work is more important to success than the tools that are used.

## VALUE ANALYSIS



# How to Analyze Price Increases

ONLY oldtimers in purchasing can remember buying in a period when prices weren't moving upward. Many economists predict that "creeping" inflation will be with us for a long time to come. In one respect, purchasing men should rejoice at this outlook. Everyone, including purchasing, is hurt to some extent by inflation. But, for purchasing, slowly rising prices do present challenges and opportunities. The pressure of mounting costs can often only be partly relieved by price hikes. As a result, there's a big squeeze on profit margins.

Longer term analysis projects involving design changes, new materials, etc. all help bolster profit margins. But the first lines of defense are the industrial relations at the bargaining table—with management negotiating with labor and the PA negotiating with suppliers.

### Are Prices Fixed?

Salesmen often wonder why purchasing agents should ever question price increases. After all, their companies are not out to cheat their customers and wouldn't ask for unjustified increases. This is quite true in practically every case. But that doesn't excuse the P.A. from vigorously taking exception to any price he believes is out of line. The fact is that what might be a perfectly legitimate price adjustment to the seller can readily be an unjustified price hike to the buyer.

On items where there is a large number of buyers and sellers, the market reflects the relative desires of both buyers and sellers. The result is economically a fair price (even though some individual buyers or sellers will undoubtedly think it's too high or too low).

Take the case of a part made to print. In this case, there is one buyer and one seller. There is no impersonal market to arbitrate differences of opinion on prices. In terms of "justice" both

buyer and seller can be right. To see why, consider this hypothetical case:

The vendor signed a new union contract in which all workers got a 5% raise. This additional cost was just too much for the vendor. His return on investment was already inadequate and his costs seemed destined to rise further since materials were continuing to go up. The vendor requested a 5% price increase. He pointed out to the buyer that this was fair since his labor costs had gone up.

The buyer said no soap. In the first place, he said, 5% was too much for the labor increase. He pointed out that, at best, only about half of that particular vendor's costs were wages and salaries. On that basis, a 5% wage increase would mean only a 2½% cost increase. Furthermore, the buyer could hardly compensate the vendor for higher *anticipated* costs of materials. The buyer pointed out that his company couldn't recoup anticipated higher expenses from its customers so why should it pay them to suppliers. Nor was his company contemplating increasing prices; as a result, even a 2½% price increase couldn't be passed through to the ultimate consumer. Therefore, no price increase was justified.

Both buyer and seller can marshal legitimate and convincing arguments. Which will prevail? The answer depends upon bargaining skill and the state of the market. The latter, no individual buyer can influence significantly. With the former, it's a different story. Skill in bargaining is one of the qualities that separate the buyers from the clerks.

Much has been written about how a buyer with a "dynamic" personality can convince a supplier he should do almost anything. The popular image of a buyer is still, to some extent, that of a man bellowing at suppliers that prices are too high. A seasoned salesman doesn't find a loud-mouthed buyer too tough to deal with. The loud-mouth rarely knows what he's talking about and mostly just wants a little attention. So the salesman flatters him and indicates how impressed he is with the buyer's "skill" and "tough" negotiating. Then the salesman gets exactly what he wants.

Fortunately, the 1957 model buyer is a little more astute. He doesn't ask for anything unless he can back his request up with facts. *Today's buyer applies value analysis to negotiation.* The value approach is the planned approach. With it, you decide, in general, the over-all policy you're going to follow before any suppliers come after price increases. *With the value approach, you decide in advance how much of a price increase you can realistically expect to pay and how you're going to go about holding increases to this bogey.* To do this, you've got to make a careful analysis. You must consider the following:

**The State of the Market.** If prices in general are going up, you're going to be paying higher prices too. The BLS wholesale price index for your industry is a good indicator of the general price trend. For example, if you're in metalworking, you should know that the BLS index of metals and metal products is up about 6% in the last year.

**Basis of the Increase.** With most commodities vendors don't just announce a higher price with little or no explanation. There's almost always a stated reason. Some reasons like the need for "money for expansion" or "generally higher prices" approach being rationalizations of everyone's desire to make more money. Others like a "steel increase" or "labor increase" can more readily be analyzed. Try to get a specific explanation of why the price is being increased whenever possible. You might try a policy of "no explanation—no increase" on some commodities.

**Cost Breakdowns.** Some purchasing departments insist on complete cost breakdowns before they'll even talk about higher prices. Some companies (and this writer agrees with their point of view) think cost breakdowns are none of the buyer's business. They hold that a buyer shouldn't be interested in incurred cost but, instead, should consider what cost should be if the product were made by an efficient producer. The philosophy here is to stay away from any sort of "cost plus" approach to buying. It's a dangerous concept to accept. From a practical point of view it's always useful to know exactly how much it costs to make a given item. But experience shows that suppliers usually consider costs none of the buyer's business. Any cost breakdowns furnished under pressure are of little value; usually the only accurate segment is material cost and most suppliers don't object to disclosing that anyway. However, in a few cases, where the buyer is free to audit costs, the breakdowns that result can be very useful.

**Specific Substantiation.** There's certainly nothing wrong with asking a supplier to justify a price increase. If his announced reason for increasing prices is the same as his real reason, there is no reason why the supplier should be reluctant to substantiate his increase. For example if the supplier wants more money because

## Control Costs All Along the Line

Close control of purchased parts at the TV-Radio Division of Westinghouse, in Metuchen, N.J., has been achieved by the establishment of the post of Cost Control Coordinator in the purchasing department.

Highlights from a summary of the cost control function in the division indicate how the scope of analytical buying can be broadened far beyond the confines of the purchasing department:

"The cost control coordinator works closely with engineering on new designs in an effort to reduce costs as much as possible at the design stage. In order to be useful at this point of design, he must keep abreast of the latest technical advances in our field and should have enough technical background to recognize worthwhile items from both a cost and engineering point of view.

"Once the profit picture per TV or radio model is set up, policing action is required. Just as industrial engineering polices its labor costs, so must purchasing police material prices . . . it is imperative that the coordinator resist all increases in cost both on traveling requisitions and price change notices (all of which flow through him).

"If increases are accepted (after every cost increase has been vigorously resisted by the buyer—and cost control coordinator and purchasing agent when necessary) we ask the supplier for his ideas on redesigning the item to reduce the cost to eliminate the increase.

"The cost control coordinator is a member of the engineering change notice committee and is responsible for the purchasing cost and timing of these changes.

"He is responsible for all costs coming out of the purchasing department, whether they be material costs or tooling costs (actuals or estimates).

"The cost control coordinator is on the constant lookout for new items. He screens out those which would waste engineering time. A New Products Report is issued, on each item, to the chief engineer and to all engineering section managers and interested departments. When all reports and comments flow back, judgment is made whether or not to incorporate the item into production."

steel has gone up, he should not object to giving the buyer the details of his new and old material costs. It is relatively easy to check out most increases in material cost. With steel, for example, you can get on the mailing list of a few major mills and be kept posted. To verify labor cost increases, you find out how much a union contract settlement amounted to. Your industrial relations department can get these figures for you with comparatively little effort.

**Realistic Limits.** There is a danger in discussing cost with a supplier. As soon as you ask a supplier to verify an increase, you're tacitly agreeing to pay it if it should be proved "legitimate" by the cost approach. In many cases, this is what you will wind up doing anyway so there's no harm in attacking the increase from the cost standpoint. However, there are exceptions—and they are important. It's not inconceivable that you'll wind up with a net reduction for a part on

which a supplier wants a price increase.

**Competitive Situation.** If one supplier of an item wants a higher price when there are a half-dozen qualified vendors available at lower prices, there won't be any increase. This is true even if costs are advancing. So on any item you're not sure of, be sure to get competitive quotes. This should be done even on items where expensive tooling is involved on certain occasions. Some vendors, once tooled up, are prone to think they will keep a job regardless of what they do. It doesn't hurt to keep them from getting complacent.

**Learning Curve.** Obviously you can't shift jobs from vendor to vendor with every little change in the market. You spend a lot of time selecting a vendor in the first place mainly because you want to prevent being forced to make changes after a job is in production. When you give a vendor a job the first time, he expects to do it at a

## One Way to Analyze Price Trends

Here is a simplified version of how the purchasing department of Ford Motor Company of Canada, Limited, uses analysis to know if the prices it pays are following the market trend:

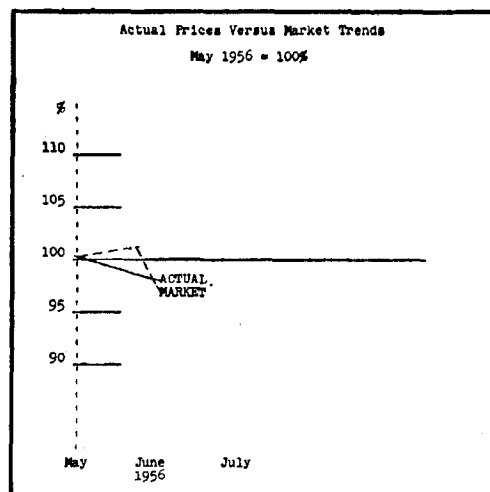
Assume for purposes of the example, that a motor vehicle consists of only three parts—using rubber, steel and copper. A market trend chart is prepared from data taken from a monthly report on prices issued by the Dominion Bureau of Statistics (roughly comparable to the U. S. Bureau of Labor Statistics.)

The purchasing department selects the commodities related to the products and materials used in Ford vehicles. Using a weighting factor it arrives at a composite index for all parts. The weighting factor is developed from the value of the material used in the part for the vehicle.

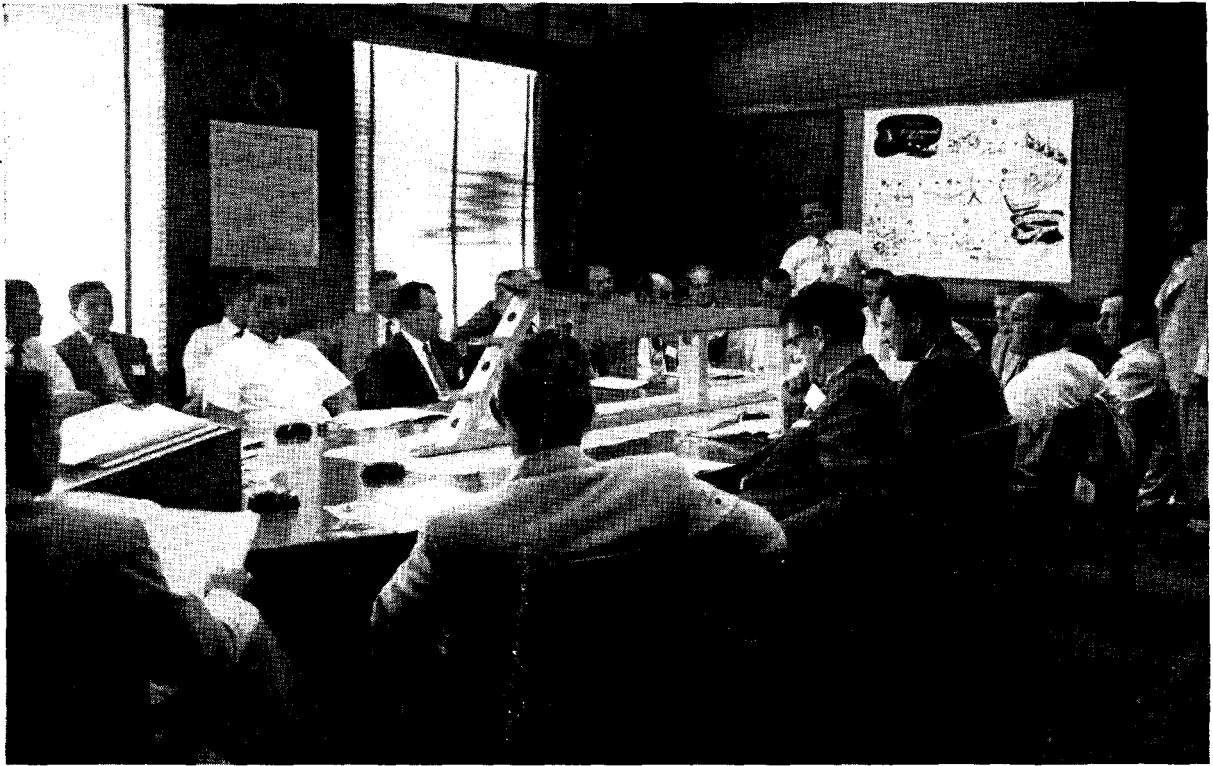
### Example:

Commodity	Weight	May	Index — %	
			June	July
Rubber	6	196.4	196.8	200.5
Steel	15	216.8	218.7	218.8
Copper	4	426.5	422.8	369.1
Composite	25	245.5	246.1	238.5
Based on April '56		100.0	100.2	97.1

Steel, for instance, at a unit of 15, is a value in relation to the total composite cost of material at 25. When the steel price—or other price—changes, purchasing develops and reports a new index movement indicator. It also compares the actual index with the market index, selecting a suitable base or starting point.



There's nothing like visual comparison for good control. The chart is particularly useful when the trend of company prices varies significantly from the general market trend.



Buyer and seller should have a mutual advantage in improving quality and fighting rising costs. Frequent exchanges of ideas help both achieve their goals. Shown here is a group at one of Northrop Aircraft's Vendor-Vendee Product Improvement Conferences.

profit. In some cases, he doesn't make money on it, of course. But in most cases, he either makes the profit he figured or does even better. The second time that vendor makes the item, he's going to profit from his earlier mistakes. His true costs will almost inevitably be lower. In the aircraft industry—where job lots are small and parts are complex—it's estimated that each succeeding lot costs 80% as much as the lot that preceded it. Regardless of the industry, the maxim that you "learn from experience" applies. You have good reason to expect lower prices with experience as long as basic labor and material costs remain unchanged. In many cases, the improvement from experience will offset increases in basic costs by a wide margin. The result: a reduction in price.

**Change in Distribution.** Suppose a vendor's price increase is perfectly justified by higher cost. And you have no way to beat the increase through competition, application of the learning curve principle, etc. Do you then accept the increase? Not necessarily. Look at changes in volume of business first. If the part is being made in greater quantities than it was at the time the original price was set, the vendor has experienced some unit cost reductions. Even if

this is not the case, you can induce the same effect cost-wise simply by relocating business. The idea is to let vendors quote on making a whole group of similar items in combined runs. Inevitably the "package" price is lower.

**Other Analysis Techniques.** In many cases, you'll pay a higher price for an item even after considering every technique considered here. If a vendor insists on a price hike—period—and you can't bring in lower cost competition, the only thing you can do (temporarily, if not permanently) is pay it. But you aren't licked yet. Items that have been going up in price are ideal ones to attack with other techniques of value analysis. Substitute materials may become economic. Investment in equipment to make it in your own shop may be worthwhile. A thorough search for new competitive sources may be justified. Design change should certainly be considered.

In many cases, there's no doubt you'll pay a higher price because a higher price is justified. You can never beat the market completely with value analysis. But you can blunt the effect of a generally rising market on your costs. This is particularly true with items that are "custom-made" to your blueprint. But, to some extent, it applies to everything purchased.

## VALUE ANALYSIS



# Put Suppliers on Your Value

**S**HREWD PURCHASING agents were picking suppliers' brains long before the term value analysis was invented. Though the idea of getting help from suppliers isn't new, new techniques have been devised to help do the job more effectively.

For years salesmen have been selling purchasing agents and both have benefited. Now a new trend seems to be developing. Purchasing agents are trying to "sell" salesmen! They're feting them with lunch and drinks at "Supplier Days" and similar affairs. They're doing everything within their power to encourage vendors to develop ideas and products that they can buy. Many companies, in fact, are just as prone to remember suppliers at Christmas time as they are their own customers!

These programs to keep vendors happy aren't altruistic. To move forward, every company needs a steady flow of new ideas and new products. One of the biggest sources for them is the vendor. In a typical manufacturing company, about half the sales dollar goes to outside suppliers. In some industries, suppliers do more than half of the engineering for their customers. In every industry, they do a substantial portion. In the auto industry, for example, most of the credit for such developments as hydraulic brakes, power steering, automatic transmissions, etc. should go to suppliers of the auto companies. The auto companies and others have made money by accepting ideas that suppliers developed on their own initiative.

More and more purchasing agents are asking themselves:

*If we can make money for our companies by passively accepting ideas developed by suppliers strictly on their own initiative, can't we make even more money by actively encouraging and stimulating suppliers' thinking? While it's true that the suppliers' profit motive will cause a lot*

*of suggestions to be made with little encouragement from us, it certainly doesn't hurt to make the process easy and convenient for them.*

This dynamic purchasing theory is being carried out in practice in dozens of different ways. Some of the techniques used include:

1. "Supplier Days", in which vendors are invited to the plant for lunch, a tour of operations, and meetings with company management.

2. Product displays in the lobby or purchasing conference room in which all components are spread out so as to stimulate creative thinking.

3. "Cross fertilizing of ideas" by having suppliers visit the customer plant and vice versa with both groups asking for suggestions for improvement.

4. Mechanical devices, including supplier "suggestion boxes" solicitation of ideas for product improvement on purchase orders and quotation request requests, etc.

5. Programs calculated to increase the number of specialty manufacturers making routine sales calls on purchasing.

Supplier Days are good chiefly as vendor morale boosters. In themselves, they're probably less efficient than other techniques of supplier brainpicking. But they do get the vendor in the mood—especially after he gets a free lunch, a tour of the plant, and hears company bigwigs tell him how important he is.

"The only trouble with Supplier Days," complains one purchasing agent, "is that everyone expects too much from them. Vendors are told that they're 'members of the team' by our president and then we turn around and take something away from them and put it in the shop. Quality control and product engineers find the rate of rejections doesn't drop as a result of their speeches to vendors on the need for higher quality. We in purchasing find that it's rare that anyone can trace any specific cost reduction sugges-

# Analysis Team

tion to a Supplier Day. Nor is there a discernible improvement in vendor delivery performance."

Companies won't be disappointed with the results of their Supplier Days if they consider them as just one phase of a bigger over-all vendor relations program.

## **Show Off Your Products**

Hundreds of manufacturers have show rooms in which they display their finished products to customers. In some instances, these displays can be used to advantage by purchasing. This is particularly true when they're located near the purchasing office and when the product is so constructed that it's easy to locate all individual components.

In most companies, if purchasing wants a place to show off the stuff it buys, it must provide its own. Then the PA must decide whether it's really worth the trouble.

Dozens of PAs are convinced that it is. At relatively nominal cost they believe they can get a place where:

1. Buyer and supplier can physically review any part that is causing difficulty with respect to either cost or quality.

2. A vendor can review items being made by the shop or suppliers of other lines and offer suggestions for improvement in design or method of manufacture.

3. Buyers can see all of their parts together and can make ready comparisons of quality and price.

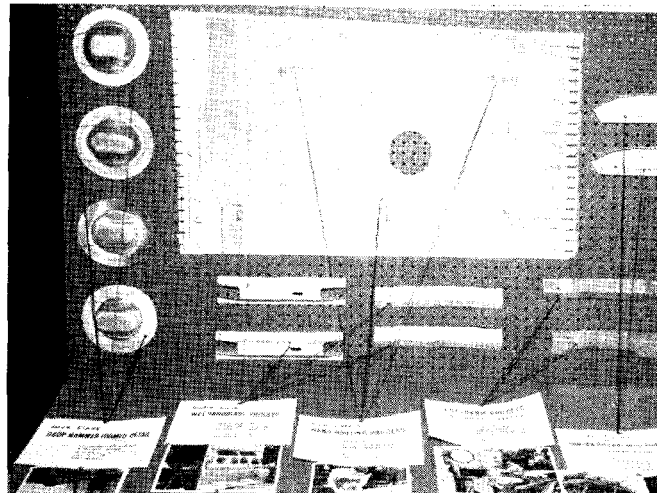
4. Proposed new vendors can look over items on which they might be interested in quoting.

Once they enjoy the benefits of having their own display rooms, purchasing departments have a hard time getting along without them. In most cases, however, the problem of giving them up just doesn't arise. Management becomes con-



"Dusty" Fowlkes, left, expert on specialty suppliers for GE's value analysis services section, confers with Jim McMasters, vendor's representative, on an idea that may help buyers in a number of General Electric departments.

Vendor-vendee product improvement meetings are an important activity at Northrop Aircraft, Inc., Hawthorne, Cal. This is one among the many "productibility" displays by suppliers at these conferences.



*An Award of*  
**VENDOR VALUE**  
*conferred upon*

---

in recognition of consistently helpful service and cooperation  
in the field of cost reduction.

The Purchasing Department of

---

makes this award in conformance with the principles appearing below.

“The Vendor’s Know-How is the Buyer’s Greatest Asset”.

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Date

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Purchasing Agent

---

*The tests of a*  
**VENDOR’S VALUE**

1. He knows precisely how the customer uses his product.
2. He makes every effort to help the customer with standardization.
3. He tries to help customers cut costs by eliminating unnecessary features in his products.
4. He knows all his own capabilities and how they can help the customer.
5. He stays informed on – and tries to top – features of competitive products.
6. He tries to simplify his products before he’s forced into it by the customer.
7. He stays informed on new processes and materials, and discusses them with the customer.
8. He tries to package his products in the cheapest and most efficient way.
9. He promotes the idea of blanket orders and other devices to help the customer cut costs.
10. He tries to give each customer the best possible price on his product.

## **You Can Give Public Recognition To Cooperative Suppliers!**

Here is a method for promoting greater teamwork between buyers and sellers for greater value: a special award to suppliers who have made important contributions to your cost reduction or value analysis programs.

**THESE AWARDS ARE AVAILABLE,  
FREE OF CHARGE, ON REQUEST**

A limited number of these awards has been printed on heavy stock, suitable for framing. You may obtain them simply by writing to Purchasing Magazine, 205 E. 42nd St., New York 17, N.Y., giving the name of the vendor or vendors who performed some meritorious service. The certificates will be filled in with the supplier's name and your name in attractive script, and returned to you. All we require is your assurance that the supplier has given you genuine help in your value buying efforts.

**THIS IS A CHANCE  
TO BROADEN THE BASE OF  
YOUR VALUE ANALYSIS PROGRAM**

Use of the Award of Vendor Value is tangible evidence that you want suppliers on your value analysis team. It will reward them for their contributions and inspire them to greater participation in your program. It is public acknowledgment of the fact that you are working together for better value.

**WRITE NOW FOR FREE COPIES  
OF THIS IMPORTANT AWARD  
OF VENDOR VALUE**

Simply send us the names of the vendors you feel deserve this award. We will fill in their names and yours, suitably inscribed, and send the awards to you, to be presented as you see fit. The award will be an enlarged version of the one at left, on finer, heavier stock.

vinced that the savings produced by such an exhibit more than offset the cost of the floorspace. Purchasing isn't the only department that benefits either. It's very helpful to engineering to have all similar parts laid out on boards or tables. Standardization becomes considerably less painful.

### **Plant Visits Pay Off**

There are a lot of plants with high cost manufacturing methods, sloppy quality control procedures, and mediocre engineering talent. But has any buyer ever talked to a salesman who didn't claim his company was tops in all three respects? That, of course, is the basic reason for vendor plant visits—to see with your own eyes what sort of job a vendor can do for you.

But if this is the only use you make of visits, you're missing a lot of opportunities to cut costs. Looking at jobs vendors are making for other customers can give you ideas on similar items you're buying. Examining vendors' facilities and equipment can give you ideas you might put to use the next time you get a requisition for a similar piece of equipment. If one of your vendors is doing something more efficiently than it's being done in your own shop, you're foolish not to pass this information on to your manufacturing people. On the other hand, if you notice that a vendor is doing something less efficiently than your shop, why not call it to his attention?

The most progressive approach to plant visits is to consider them a two-way exchange of ideas. Purchasing is the catalyst. It arranges for suppliers to see its plant and become familiar with its products. It encourages suggestions from vendors on any phase of company operations which they think could be improved. Purchasing also, of course, makes regular visits to suppliers standard practice. It wisely invites specialists from engineering and shop along on such visits. Both can pick up ideas applicable to their own operations and offer helpful suggestions to suppliers. All this sounds idealistic. It is. But, in practice, it seems that the more closely the ideal is approached, the bigger the payoff for all.

### **Gimmicks That Often Work**

Fifty years ago if you suggested an employee suggestion box to a typical manager, he'd think you were an impractical dreamer who should be confined to the ivory tower of some college campus. Today, it's different. The factory without the employment suggestion box is the rare exception. A lot of hard boiled PAs might laugh at the idea of a vendor suggestion box. But in a few years, they could change their minds. The cost of box is nominal and the few pioneers that have put them up have found that the occasional suggestions they stimulate are more than worth the trouble. A more common gimmick that serves much the same purpose as the suggestion box is

<b>ATI</b> <small>ONE APPOINTMENT PURCHASING DEPARTMENT AEROSOL TECHNIQUES, INC.</small>	<small>THIS TICKET WILL BE HONORED FOR</small> <b>ONE APPOINTMENT</b>
	<b>PURCHASING DEPARTMENT</b> <b>AEROSOL TECHNIQUES, INC.</b> <small>111 SULLIVAN AVENUE, BRIDGEPORT, CONN.</small>
<b>PRICE--ONE IDEA</b>	<small>ATI welcomes you to participate in</small> <b>'WHAT'S YOUR BIG IDEA?'</b> <small>Dedicated to the best in pressure packaging</small>
<small>WRITE YOUR BIG IDEA ON REVERSE SIDE</small>	

Aerosol Techniques, Inc. has a novel plan for stimulating the fertile minds of suppliers' representatives—this simulated theatre ticket. The "tickets" have been sent to all suppliers, and are available in the reception room. Space is provided on the back for writing out "the big idea."

the statement on the quotation request. It's designed to encourage vendors to initiate ideas that cut costs. Typical of such statements is this one used by Ford:

*We will welcome suggestions regarding design changes that you believe will facilitate the tooling or fabrication of the part or both. However, all such changes must have the approval of our Engineering Department and arrangements made to incorporate such changes on our blueprints because our purchase orders will specify delivery as per our blueprint.*

The Ford statement seems to have brought results. The company has saved millions by incorporating design changes suggested by vendors.

Have you ever considered inviting vendors to your cost reduction meetings? A number of thoughtful PAs have considered this idea and rejected it. They fear that vendors would get too involved in matters that are none of their business, including competitors' prices, etc. General Electric has overcome this potential handi-

cap. Specialist suppliers invited to its value analysis seminars are on hand to answer questions but do not actually participate in the analysis of products. The suppliers are given a chance to explain their products as potential substitutes for higher cost items and are then available to coordinate quotations on particular components that interest the analysts.

Another company has gone much further than G. E. in getting suppliers in the act on value analysis. Suppliers whom purchasing thinks can make a contribution are invited to participate in the monthly "cost reduction meetings." Purchasing gets around the problem of how to prevent vendors from learning competitors' prices by simply not marking the prices on the items reviewed. When vendors are present, the meeting is devoted entirely to potential cost reduction through material substitution, design change, etc. Price analysis is done only after vendors leave.

A purchasing program is only as good as the suppliers it involves. Every PA recognizes this axiom but few are willing to do anything about it. One of the few is Herbert Essley, director of purchases and works manager of Taco Heaters Inc., Providence, R. I. Mr. Essley knows he can do a much better purchasing job if more top calibre are interested in Taco business. Therefore, he is quite frankly interested in publicizing the benefit of doing business with Taco. Recently he widely distributed a reprint of a magazine article describing Taco's purchasing policies.

A bigger company goes after the same objective with a slightly different approach. Its vice president—purchases considers himself to be sort of a "missionary" salesman. He travels around the country calling on companies that have never contacted his department for business. In his calls, he explains what he wants from suppliers in the way of price, quality and delivery. He makes a point of calling on companies who might be able to make products on which he feels there is inadequate competition or where he is not satisfied with existing sources of supply. No company with a good reputation is actually discouraged from quoting, however.

This vice president is too smart to over estimate the success of "missionary" program. His company is so big that if it improves over-all purchasing performance by as little as 10%, his efforts weren't wasted. The "90% or more" says the vice president, "comes from day-to-day contact between buyer and supplier."



Gardner-Denver Company, Quincy, Ill. participates actively in the value analysis programs of many of its customers. The company has developed this attractive, table-top display for demonstrating and discussing its line of air tools at such meetings.

## VALUE ANALYSIS



# How to "Sell" Your Value Analysis Program

**S**ELLING top management on any new purchasing idea takes a little doing. In most cases, top management isn't procurement-minded. It usually appreciates the value of good buying but is often extremely conservative on any new organizational concepts affecting purchasing. A lot of top managers have backgrounds in sales and engineering—which don't necessarily produce the cost consciousness needed to appreciate the advantages of value analysis. Manufacturing, finance, or purchasing are more likely to produce executives sympathetic to the value analysis concept. (There are, of course, many exceptions to this general rule.)

Obviously, you can't re-write history. So you must adapt your strategy to fit the boss's particular prejudices. If the chief is basically a salesman, then the message that \$5-10 in cost reduction is the equivalent of \$100 in sales should strike home. If he's an engineer, the pitch might emphasize the product improvement aspect of value analysis. With both salesman and engineer, you can hit hard on the effect of value analysis on the product's competitive position. With the ex-controller, mention wider profit margins and you've "made a sale." The manufacturing man will probably be sympathetic if you imply that value analysis can help translate engineers' theories into practical, low-cost operating practices.

Probably few executives are as narrow-minded as these over-simplified examples imply. However, the most objective of us have our prejudices and only a foolish man will fail to take them into account. The best—and perhaps the hardest—way to get the boss behind value analysis is to let it be "his" idea. Occasionally, of course, you'll be lucky. He'll hear about it on his own and tell you to look into it further. In most cases, however, you're going to have to take the initiative.

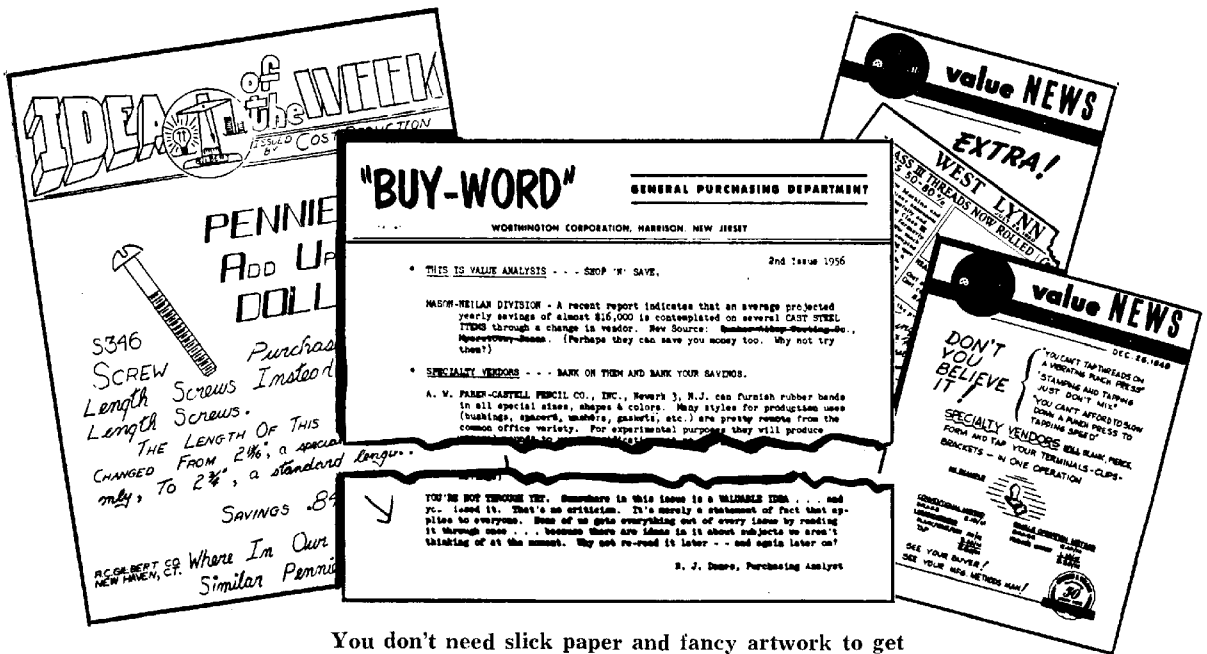
### **Four Approaches That Work**

The most straight-forward ways to sell value analysis is the:

**"After-the-Fact" Technique.** With this ap-

Anyone from a department head to a janitor might suspect value analysis if he doesn't understand it. So a constant "missionary" effort is needed to show that everyone shares in its benefits. Wray Reger, communications expert on General Electric's value analysis services staff, here reviews stories and news items on value analysis that have appeared in internal GE publications.





You don't need slick paper and fancy artwork to get an idea across. Here are three good examples of low-cost, high-impact methods of spreading the value analysis gospel. If you have a value message and any ordinary office reproduction equipment available, your propaganda machine is as good as working now.

proach, you don't waste time on any advance propaganda or get anyone else's O.K. You just go ahead. You decide on your program and incorporate it step-by-step. You might start with value analysis as strictly a purchasing function involving existing buying personnel and branch out from there. Act on the theory that everyone actually knows what you're doing and, in some cases, the program will almost automatically be accepted after it gains momentum. Low pressure "horn blowing" along the way doesn't do any harm, of course. In some cases, your program can be slowed down by budget limitations. Then you've got to change tactics. ■

Particularly helpful is the:

**"Grass Roots" Technique.** It always helps to have powerful allies when you encounter resistance to your ideas. It's also sound to convert potential resistors into allies long before it even occurs to them to resist. The people that are going to resist value are those who are going to be inconvenienced and those who (wrongly) feel that value analysis will "show them up" unfairly as being incompetent. Generally speaking, the lower you go in the organization, the more chance you have of meeting this resistance. In a lower echelon job, a man's concept of the organization can tend to revolve too much around his own job. The bigger the job, the broader the organizational visibility (in most cases). Your biggest resistance will probably come from individual project engineers. Surprisingly enough, you'll probably meet some resistance from buy-

ers. It helps if everyone is for the program. But the support of the controller and (usually) the chief engineer is critical. Either of them is capable of derailing the program before it really gets going. Good personal relations help. One PA got a chief engineer's support by inviting him to join a Wednesday night poker club.

**"Shot Gun" Technique.** The personality approach won't always work. Nor is it particularly pleasant in the case of some personalities. And you can't apply it on a mass production basis too readily. The most effective way to win large groups of friends for value analysis is with the "shot gun" technique. The idea is to pepper everyone concerned with enough propaganda on the subject so that they eventually come around to your way of thinking. You might launch the propaganda with a report on how someone else set up a successful value analysis program. This first report should be to arouse interest in the subject—not to propose adoption of any program. Subsequent reports on the subject can then develop the idea in greater detail. Between reports, it's a good idea to distribute copies of articles you might read on the subject to all interested parties. In theory, the "shot gun" technique will enable you to sell value analysis to everyone concerned before you ever formally propose its adoption. Any influential doubters that remain can often be "sold" if they're taken to visit some plant that already has value analysis.

**The "Direct" Approach.** If you want to have a value analysis program, why not just present

the facts to management and get approval. This is certainly the easiest way—in many cases, the most effective one. One PA did it successfully with a 30-page presentation. He first outlined why a value analysis program was needed. Then he described two successful programs established by other companies in the same industry. Finally, he made a detailed proposal for a program of his own. His ideas were adopted with but minor changes by the company's administration committee.

Another PA didn't bother with any written reports. He verbally described the idea to the executive vice president and got a preliminary O. K. Then he set up a meeting for all interested parties to work out the details. The minutes of this meeting became the basis of the company's value analysis program.

The first three approaches described in this article may seem a little Machiavellian to many PAs. If you can get results with the direct approach, why bother writing a lot of reports, convincing everyone it's a great idea, or using "sales tricks" to get support? The fact is a simple direct approach often does work. Remember however, that to have a successful value program you've got to have more than top management backing. You can't get enthusiasm and initiative by top management fiat. People will play lip service to management's order to cooperate on a value program. But they won't actually accomplish anything unless they believe in value analysis. So it's smart to sell value analysis to the organization

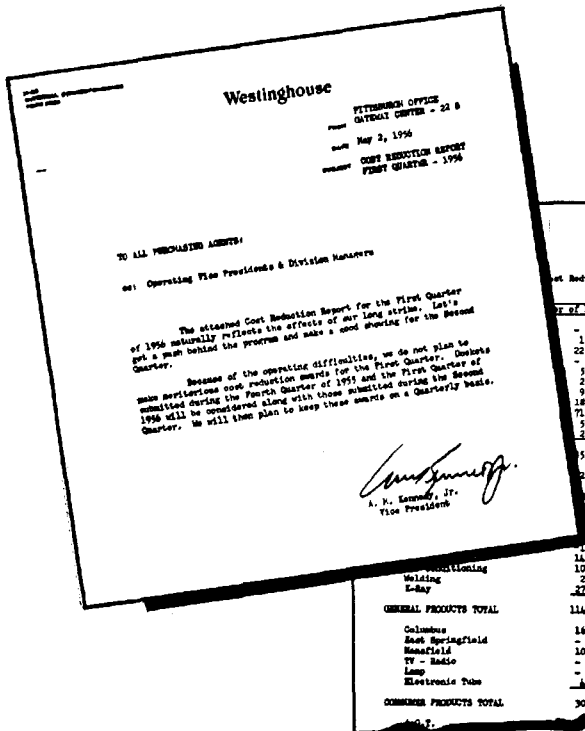
even if top management is solidly behind you. If top management is a little cool on value analysis, it's usually vital to get broad support. Most top managements won't buck a proposal that has wide backing unless they're dead set against it.

### Keep the Program Sold

If you spend money and don't show results, you're eventually going to get into trouble. So a reporting of accomplishments is basic to keeping a value program sold. Progress reports are common to every successful value analysis program. That's why a separate short article in this issue is devoted to reports.

Another good way to keep interest high in the program is to give special recognition for outstanding value accomplishments. The "Value Vendor" award proposed on page 58 is one approach to foster supplier cooperation. Company personnel obviously will be extremely interested if value performance is a factor in their personal success. Since there is widespread interest in performance rating techniques, a separate article in this issue is devoted to the subject.

General Electric deserves credit for initiating one very effective means of generating value consciousness. The company's "Value News" is issued to all personnel concerned with value analysis and is full of cost cutting suggestions. Worthington Corporation's "Buy-Word" is another excellent effort along the same line. Samples of both "Buy-Word" and "Value News" are illustrated on the opposite page.



Westinghouse uses regular, detailed reports as one means of both recording the accomplishments of analytical buying and keeping up enthusiasm for it among purchasing agents and top management.

TABLE II - COST REDUCTION PROJECTS COMPLETED - 1st Quarter, 1956

Net Reduction & Expense Reduction Participation (Class A)	1st QUARTER		2nd QUARTER		
	Number of Projects	Dollar Value	Number of Projects	Dollar Value	
1	44	0.01	14	4,131	
22	105,676	2.60	79	29,255	
3	50,745	0.57	3	12,400	
2	4,720	0.49	-	-	
7	86,545	4.00	13	1,765	
18	4,659	0.34	29	9,348	
71	28,701	1.51	13	3,642	
5	41,226	3.70	122	78,780	
2	4,732	0.62	38	14,827	
3	335,071	1.00	308	155,406	
2	9,460	0.54	12	13,371	
1	121,458	3.55	11	13,805	
2	22,412	0.62	23	124,339	
2	30,890	0.48	8	4,374	
1	30,008	2.89	4	57,445	
1	5,304	0.49	10	19,186	
11	39,334	1.77	11	6,546	
10	252,678	5.49	22	113,153	
2	1,813	0.75	1	2,340	
2	20,117	4.58	17	5,024	
GENERAL PRODUCTS TOTAL	494,474	2.59	121	346,013	
Columbus	16	291,497	3.28	70	111,760
East Springfield	-	-	-	-	
Mansfield	10	25,411	0.37	71	212,522
TV - Radio	-	-	-	-	
Lamp	-	-	-	-	
Electronic Tube	4	12,166	0.28	21	27,224
CONSUMER PRODUCTS TOTAL	30	290,074	1.15	144	351,506

## VALUE ANALYSIS



# How to Organize for Value

**A**N ORGANIZED effort inevitably accomplishes more than an unorganized one. This maxim applies to value analysis as much as it does to any other program. A properly organized value analysis effort promises rewards that can significantly affect operating profits. But a poorly organized value analysis program is usually doomed before it ever gets started. Fortunately, there are a limited number of ways in which value analysis can be organized. At least one of them can be adapted to your existing organizational structure.

### ***Is It a Purchasing Function?***

Value analysis, by its very nature, is not strictly a purchasing function. This fact cannot be overemphasized. Most purchasing and management men consider value analysis a purchasing function mainly because it was created by purchasing men. This view is bolstered by the fact that practically every value analysis activity today comes under purchasing's jurisdiction. "The general belief that value analysis is something that applies uniquely to purchased items is probably resulting in hundreds of thousands of dollars of waste in companies where the principles of value analysis are completely accepted," says one critical purchasing agent. So far, at least, relatively few companies accept the obvious: namely, value analysis techniques that achieve spectacular savings on purchased items can produce equally satisfactory results on shop parts and assemblies.

The two companies that pioneered value analysis have long applied its techniques to both purchased and shop items. General Electric has value analysis seminars in which everything in the finished product is reviewed by representatives from engineering, manufacturing and pur-

chasing. The purchasing departments of Ford's car-assembling divisions "buy" everything that goes into the finished automobile whether it's made by an outside supplier or the shop. At this stage, a lot of value analysis is carried on. In addition, it's also done when a given car model is still in the design stage.

At Ford and G. E. value analysis is still a purchasing function (in the broader sense) even though the activity also encompasses shop parts. The divisional purchase analysis managers at Ford report to the division general purchasing agents. General Electric's chief value analyst, Larry Miles, works for the corporate materials manager.

### ***Who Reports to Whom?***

If value analysis is not strictly a purchasing function, why should it come under purchasing? Some would hold that purchasing should be in charge because purchasing is the most cost-conscious activity in the corporation. Others might argue in favor of purchasing because it's the only department with the knowledge of markets and sources that is so vital to successful value analysis. Old timers would point that value analysis is mostly a codification of what good buyers have been doing for years and, therefore is a traditional purchasing function. The young business school grad indoctrinated in the "team approach" would also logically have value analysis come under purchasing. No other department is purchasing's equal when it comes to experience and skill in interdepartmental relations. The typical buyer and PA must deal almost daily with practically every other department in the company.

All of these are legitimate arguments why value analysis should come under purchasing. But they're by no means the overriding ones in

# Analysis

*"I simply haven't got time  
for value analysis . . ."*



many actual cases. Value analysis is often put under purchasing's wing simply because there's no other logical spot for it. To put it under product engineering or manufacturing engineering would be a mistake—neither function is as broad in scope as value analysis itself. To make it an adjunct of the cost department sounds logical. But, it doesn't seem to work out in practice. Most cost men, by nature, can only think in terms of cost for a process or a design that someone else (engineering) has set for them. They're invaluable as members of the value team but don't seem to have the interest or initiative to take the lead on value analysis.

Why not just hire a man, call him Value Analyst, and put him on the general manager's staff? This has been done successfully. In fact, it was so successful in one case that the value analyst became the company's next director of purchases. Now value analysis is under purchasing. When the value analyst joined the general manager's staff, he did do some value analysis. But his time became increasingly taken up with general administrative matters. He was the only member of the staff who wasn't a major operating official so he was always available for special assignments. This was a good deal for the value analyst (as shown by his subsequent promotion). But it did not make for a good value analysis activity. The value analyst should be in a spot where he's not subject to interruptions on day-to-day problems. That's why he can work most effectively if he's loosely attached to some department with a minimum number of specific assignments but with ready access to many different sources of information. By process of elimination, purchasing seems to be the best place.

When people think of a value analysis organization, they automatically think of how it is done

Many purchasing agents who agree in theory that value analysis should be applied to materials, shop operations, etc. complain that they just don't have the time or manpower to get a program going. But doesn't analyzing values extend to the office, too? One purchasing agent who has had notable success in value analysis with only limited means has this to say.

**"You haven't got time or people for value analysis? Their reduce your workload—put salary dollars now being used for paperwork into a value analyst—even if you have to borrow a man from engineering on a half-day basis. Here are some of the things that helped us clear the way for our value analysis program:**

**We use blanket orders as much as possible, especially on MRO orders. And we have established a cash purchasing system for rush MRO buying.**

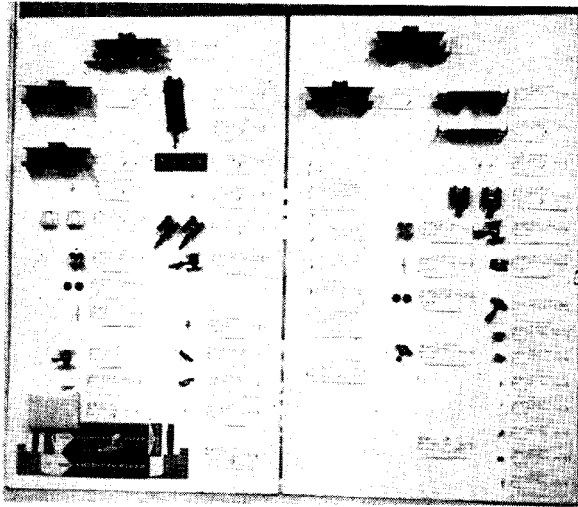
**We use traveling requisitions extensively and eliminate unnecessary filing.**

**We have dropped processing of invoices and turned it over to accounting.**

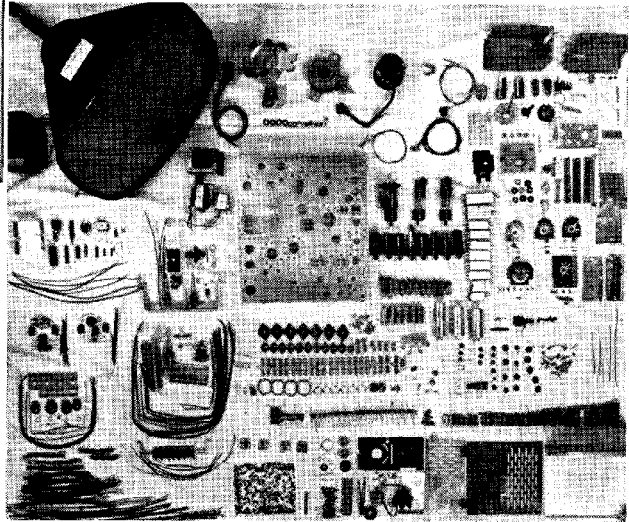
**We have cut down on our expediting load by making it mandatory for suppliers to submit reports on ordered balances. Some of them resisted—but not for long.**

**We have rigorously eliminated unnecessary reports. You may have been sending in a weekly report to the boss for a number of years. Stop sending it for a few weeks—if there's no howl, then drop it altogether. You'll be surprised how meaningless some reports have become—even though they were important at the time they were established.**

**We had buyers analyze carefully their routine duties—and found out that many of them could be delegated to clerical personnel.**



A popular technique for keeping analysts and buyers alert to cost reduction possibilities is "exploding" the end product and displaying it conspicuously. The display at right is used by a television manufacturer at cost reduction committee meetings. The A. C. Gilbert display, above, demonstrates savings made through analytical buying.



in the big corporations like Chrysler, I. B. M., U. S. Steel, etc. Practically all the big outfits prefer to have staff men working full time on value analysis. A reasonably typical value analysis group in a big company might include the chief analyst, two or three analysts, and a secretary.

If you have only two or three people in your entire department, don't abandon hope of starting a value analysis activity. There's more than one way to skin a cat. First, you can always settle for one full time (or even part-time) specialist. A few companies with annual volume of purchases as low as \$5-10 million have found that a staff value analyst can boost profits substantially. One of them is the A. C. Gilbert Co. in New Haven, Conn. Purchasing Agent Ronald Jones reported to the 1955 N. A. P. A. Convention that, with a staff value analyst, Gilbert had been able to make savings of \$70,000 per year in the first six months of the program. Mr. Jones said that he hopes "to reduce the cost of materials this year [1955] by 3%." How Mr. Jones does it is reported in detail on page 74.

#### **Form a Committee**

The more people in the act on value analysis

the greater the accomplishment — and the confusion if the organization isn't properly set up. Each value analysis project will be different from the last and the greater the availability of special skills, the more likely it is that a cost saving will be made. You can't hire analysts with years of specialized training in everything — especially if your set-up calls for just one analyst.

What you do is form a value analysis committee. Your value analyst, if you have one, might act as de facto chairman. (Perhaps the title itself might go to some chief who outranks him.) From that point on, you're on your own. Exactly whom you should invite to serve on the committee depends, to a great degree, on the peculiarities of your particular organization. The object is to get both brainpower and administrative power. For the former, you'll want men with special skills. Particularly useful are previous cost estimating and methods experience with products you'll be analyzing. You need people with administrative power to insure the success of the program. Usually (but by no means always) this group is the one with the greatest amount of imagination and is, consequently, the most likely to have the continuous flow of new ideas so vital to successful

value analysis. For some pointers on the committee approach, including one good example, see the article on value analysis meetings on page 66.

### **Do It Yourself**

If you don't hire a full time staff value analyst, then the committee approach is almost vital. However, you'll find that you can't get the job done just by holding meetings to talk about it. A lot of value analysis is legwork; a lot more is quite introverted work involving sitting at a desk making estimates, and comparisons, etc. Someone has to do this work if you want to get the most out of value analysis.

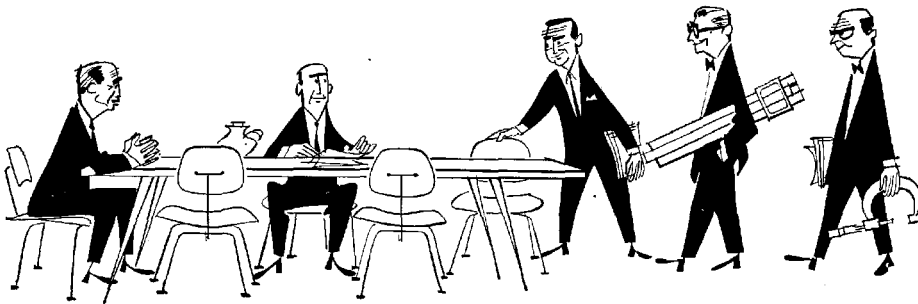
If your company isn't big enough for a full-time analyst or your management is too unprogressive, then you should try to make do with a part-time help. A part-time program handled right can be just as effective as one with full-time talent on the job. In fact, it could be even more effective in theory. You're more likely to get more people in the act with a part time program.

One route to effective "part time" value analysis is the "every-buyer-an-analyst" approach. You follow it by setting up a program whereby every buyer devotes a given percentage of his time to value analysis. Specific projects are

worked on; they're either assigned by the P. A. or initiated by the buyer himself. Buyers are instructed to make out periodic progress reports on their value projects.

The big difficulty with this approach is that even the most conscientious buyers will often be inclined to put aside their value projects to work on some problem of more immediate concern. This difficulty is tough to surmount. Most buyers already have full-time jobs and don't have the time for much else. That, of course, is one of the basic arguments for having a full-time analyst. But, if this is impossible, the only thing you can do is squeeze the extra out of someone else. One of the ways to give buyers incentive to "make" the time for value analysis is to make a game of it. Periodically sit down with each buyer and set a series of cost reduction bogeys. The targets should be realistic and the type that are attainable with a reasonable effort. If you can relate cost reduction performance to salary boosts, all the better.

The big thing in organizing for value analysis is to have a plan. A bad plan is usually better than no plan at all. And with a good plan you have the foundation for tremendous accomplishment.



### ***A Plant-Wide Committee for Cost Reduction***

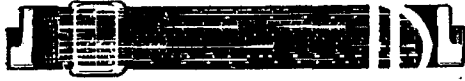
In one medium-sized Pennsylvania plant (annual sales volume about \$40,000,000) the cost and expense reduction program is carried on by a special plant-wide committee. The committee establishes policy, and reviews all docket ideas submitted by individual departments. The committee has final say on what ideas are to be further investigated or rejected.

The committee, which meets monthly, is made up of the engineering manager, purchasing agent, works manager, manufacturing superintendent, equipment and methods superintendent, works

accountant, industrial engineer, tool supervisor, and the cost reduction supervisor.

At the beginning of the year, each department measures the potential savings it can make, and establishes its cost reduction objective. The department forecasts are tabulated collectively by the committee and a plant-wide goal is set up. As the program proceeds, cost reduction accomplishments are charted by department and for the plant as a whole. Individuals responsible for particular cost reductions are listed below the department charts. All charts are posted conspicuously throughout the plant.

## VALUE ANALYSIS



# How to Hold a Value Analysis Meeting

**S**OME COMPANIES that have had regular value analysis meetings don't have them any more. They confine their value analysis effort to individual analysis projects handled by one or two men.

"Our meetings," said one ex-booster of the group approach, "did nothing but waste the time of the people involved. Sometimes they degenerated into simple bull sessions. Other times, the results were even less encouraging. All too often, the meetings became sessions where the individual responsible 'defended' himself and considered any suggestions to be an affront to either his competence or his character. When

someone did come up with a good idea, it was duly recorded in the minutes. But six months later no one had done anything about it."

In another company, the purchasing agent has been conducting regular value analysis meetings for two years and has nothing but praise for them. He estimates savings realized to date total \$139,000.

The two cases cited here are extremes. One company thinks value analysis meetings are terrific; the other thinks they are a waste of time. The more typical case is one in which value analysis meetings have led to savings but there is good reason to believe that a lot more could be

Close coordination between departments has produced notable savings for the Tennessee Valley Authority's value analysis program. Shown here at a meeting of key personnel are (l. to r.) R. Bruce, maintenance supervisor, Power Production Branch; L. B. Rockwell, chief, General Procurement Branch, Division of Materials; E. E. Robinson, chief, and J. Marshall Johnson, assistant chief, Steam, Power Production Branch.



accomplished. If you want to get more out of your value analysis meetings, follow these rules:

**1. Get Top Management Backing.** "Pre-sell" the idea of value analysis meetings to your company's top management before you attempt to go further. One PA did more than just convince the company president value analysis meetings were a good idea. He persuaded his chief to "sponsor" the meetings. The company president wrote the original memorandum proposing the meetings and presided at the first meeting. These gestures would, of course, be performed by many company presidents even if they were only half-sold on value analysis meetings in their own minds. This PA, however, did a real selling job. The boss actually took an enthusiastic interest in value analysis. He was extremely proud of the suggestions he made that ultimately resulted in cost savings. He also took great pride in the total savings that were made. Not surprisingly, everyone else in the organization takes a keen interest in value analysis. As a result, the meetings have enjoyed tremendous success. Maybe they would have been just as successful if the PA hadn't done such a good selling job on the company president. But the fact remains that it's a lot easier to get successful meetings going if you do have really enthusiastic front office support. And, if the boss flatly vetoes the idea, your only hope is to patiently await the arrival of his successor!

**2. Think Ahead on Details.** After you've gotten headquarters' blessing for the project, you're by no means ready to start holding meetings. In fact, sloppy staff work at this stage can cause the whole program to flop. You should go to work on the details now. These include:

- Lining up a place to hold the meetings. It should be a conference room big enough to comfortably hold both the people and any bulky items that might be analyzed.

- Working out procedures to draw parts out of stock that you want to analyze. The best deal is one where you can temporarily "borrow" stock from stores with a minimum of paperwork.

- Assigning someone to handle paperwork. It's almost essential that each item analyzed at the meeting be tagged with part or spec. no., source, price, etc. In addition, someone will have to get the material that's analyzed out of and back into stock. You also need someone to take notes at the meeting. Some companies have a stenotypist. Others, fearing that her presence might tend to inhibit creative thinking, have one of the participants take notes in more discreet fashion.

**3. Line Up Participants.** Before you can hold meetings, obviously, you've got to decide whom you're going to invite. This isn't as easy as it sounds. First you've got to decide whether you're going to have basically the same group participate in each meeting or vary the participants with the agenda. As with almost anything else, people

**Regular meetings have proved a boon to many value analysis programs — a stumbling block to others. Unless your meetings are well planned, well followed up, and noticeably productive, there's not much point to holding them.**

are better at value analysis after they've had a little practice. But if you have the same people at each meeting, you won't be getting specialized assistance on the particular commodities taken up. Also, the program will eventually suffer from lack of fresh ideas.

Another basic problem is that the top executives whose rank might "entitle" them to become participants are sometimes not the best people to choose. All too often, they're either out of town or so preoccupied with other activities that they can contribute little. Also, Mr. Big might not be the best qualified in terms of the special skills and talents needed. This makes it even more important to consider the personalities of all individuals who are legitimately interested in the program.

All this points of course to some compromise approach tailored to the particular company's organization. Here's one company's solution: On the permanent committee for value analysis are the executive vice president, the director of purchases, the chief product engineer, and managers of manufacturing engineering, plant engineering, and cost estimating. These six men or their assistants attend every meeting. Also invited to meetings are specialists such as the buyer and project engineer concerned with the particular products being analyzed. Occasionally, the committee will also call in an outside consultant. This is done when the committee is reviewing something that no one inside the company knows a great deal about. One recent example, in this metalworking company: lubricants.

In the above example, there were few personality conflicts and each participant was convinced that such sessions were worthwhile. In practice, it's not easy to create this ideal environment. Usually, at least one major executive will be cool on value analysis. In fact, some PAs have been forced to limit participation in their meetings almost entirely to purchasing personnel simply because other department heads never seemed to "have the time" to attend meetings. Apathy in other departments can be a real prob-

## *"It Ain't Necessarily So . . ."*

Popular conceptions are usually wrong, according to Larry Miles, who heads General Electric's value analysis services section. They don't fit specific cases—and often they are no longer true even as generalities. Here are a few fallacious ideas he exposed at a recent meeting of the American Society of Tool Engineers:

"Plastics are brittle . . ."

"Plastics are weak. . ."

"If it's a thin enclosure, sheet steel is most economical. . ."

"Tool costs are too high for our quantities. . . ."

"If it is solid material, it's better. . ."

"An upsetter can't gather enough material to make a spacer large enough for our purposes. . ."

"They can't roll an Acme thread. . ."

"We are already using the best processes. . ."

"We are doing it about right. . ."

"We can't do any of our jobs for half the cost. . ."

"We are up to date on what's new. . ."

Mr. Miles shot holes through each of these misconceptions by showing actual examples of how substantial cost reductions were made by ignoring them and striking out into new ground. Mr. Miles' entire talk appears in Paper 24T42, a copyrighted publication of ASTE.

lem even with enthusiastic top management support. That's why you must:

**4. Sell the Program.** You won't have any resistance to regular value analysis meetings, if everyone concerned:

- Thinks that such meetings will actually accomplish something.
- Is convinced that the meetings are really a joint effort and not an attempt by one department to get in better with the brass or to "show up" other departments.
- Believes that participation will tend to enhance rather than detract from his status in the organization.

The actual selling process is heavily dependent upon the personalities of the individuals involved.



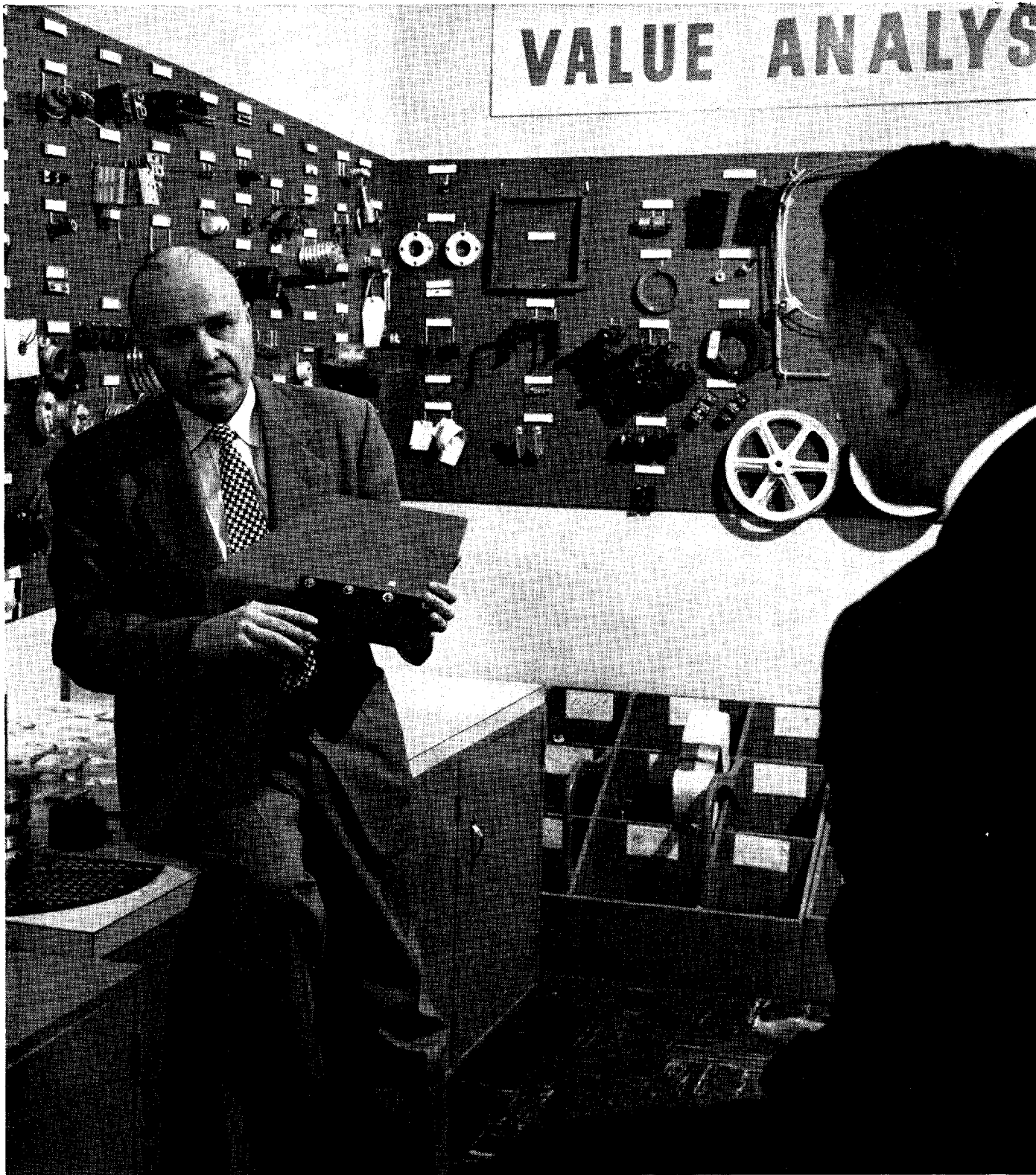
Day to day contact between individuals—particularly in different departments—is probably the most effective tool in developing value analysis ideas. The informality of such sessions tends to stimulate the imaginations of all concerned.

There are probably almost as many approaches as there are people. The PA for a heavy equipment manufacturer bombarded other department heads with memoranda and copies of articles for more than a year. He finally got his point across. In fact, his selling job was so good that the chief engineer suggested to the company president that the PA act as chairman of the value analysis committee.

**5. Don't Fall Down on Organization.** Poorly organized value analysis meetings will rapidly degenerate into free-for-alls. Everyone may have a good time but nothing will get done. This won't happen if the agenda are well planned and the meeting is well managed. A successful meeting is one in which no one feels inhibited about offering suggestions. It is also one in which the agenda is pretty rigidly followed and there are a minimum of profitless tangents followed. It won't be easy to get both these qualities in your meetings. To do it you will need:

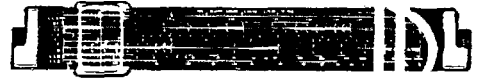
- ✓ A regularly assigned time for each meeting so it can be fitted into everyone's schedule. For example, one company has its meeting every other Monday at 9 a. m. A good rule is to forbid interruption while the meeting is in process. If there's a phone in the conference room have it disconnected.
- ✓ A formal, written agenda. It should be distributed to participants well in advance of the actual meeting so as to give them time to be well prepared for the commodities that are analyzed. Comments and suggestions should be encouraged.





Few value analysis efforts in industry haven't been influenced in some way by L. D. "Larry" Miles, GE's extraordinarily successful program, which he has directed for the past decade, has been widely imitated and adapted. Beyond that, he has personally given advice and information to scores of purchasing departments who have asked for help on value analysis. Imaginative, enthusiastic, and extremely capable, he holds without challenge the unofficial title of "Dean of Value Analysts."

VALUE  
ANALYSIS



# General Electric's Program Still Sets the Pace

**C**REDIT for a lot of "firsts" in value analysis should go to the General Electric Co. Even the term "value analysis" was coined by G. E.'s manager of value analysis, L. D. Miles.

Credit for the basic idea of having value analysis should go to Harry Erlicher, General Electric's vice president-purchases back in 1947. Mr. Erlicher brought Larry Miles, a bright product engineer with an interest in cost reduction, into purchasing. In a short time, Miles was spending a great deal of time on cost reduction. The results were so spectacular that the function was formally defined and called value analysis. General Electric has good reason to be proud of Mr. Miles' accomplishments in the last ten years. Here are some of the reasons why:

✓ G. E. has made savings of millions of dollars by applying value analysis to its galaxy of existing products.

✓ More than 2500 people have been trained in value analysis by Mr. Miles and his staff. As a result, additional millions in "invisible" savings are no doubt being made by applying value principles to products while they're still in the design stage.

✓ The company's original one-man value analysis activity has expanded until there are now over 100 "professional value specialists" in the company's various departments. In itself, this is proof of the wide acceptance of value analysis at G.E.

✓ Practically all of the value analysis activities started by other companies have been influenced, to some extent, by G. E.'s pioneering in the field. Some companies' value set-ups are almost carbon copies of G.E.'s.

According to Mr. Miles the blossoming of value analysis from nothing to a recognized function in the last ten years is no accident. It is closely tied to a fundamental change in our economy. "The system of engineering designing, purchasing buying, and manufacturing making doesn't work like it used to," says Mr. Miles. "We're beyond the period of just making things that work and are now in a competitive cost era. *The fact is that almost anyone can make a motor or a refrigerator that will work. The real problem is making a quality product at a competitive cost.*

"Cost is just as important as performance," Mr. Miles asserts. "To get both, you need a team effort. An engineer can't be held solely responsible for cost, saleability, appearance, and utility. He needs help. He gets it with the value analysis approach. We're beginning to see now that value has to enter into everyone's product. *Companies that use value analysis intensively get a definite competitive edge.*"

General Electric is a big company and its value

**The company that pioneered in value analysis continues to broaden and improve the concept. GE's set-up is tailored to the big corporation. But the principles and ideas behind it are applicable to an organization of any size.**

set-up is specifically tailored to its size. Each plant operates on its own from a profit standpoint and is free to accept or reject value analysis or any other function. In general, however, this is no great problem. G. E. management is sold on value analysis and every important plant has one or more staff value analysts who function just like those in many other companies.

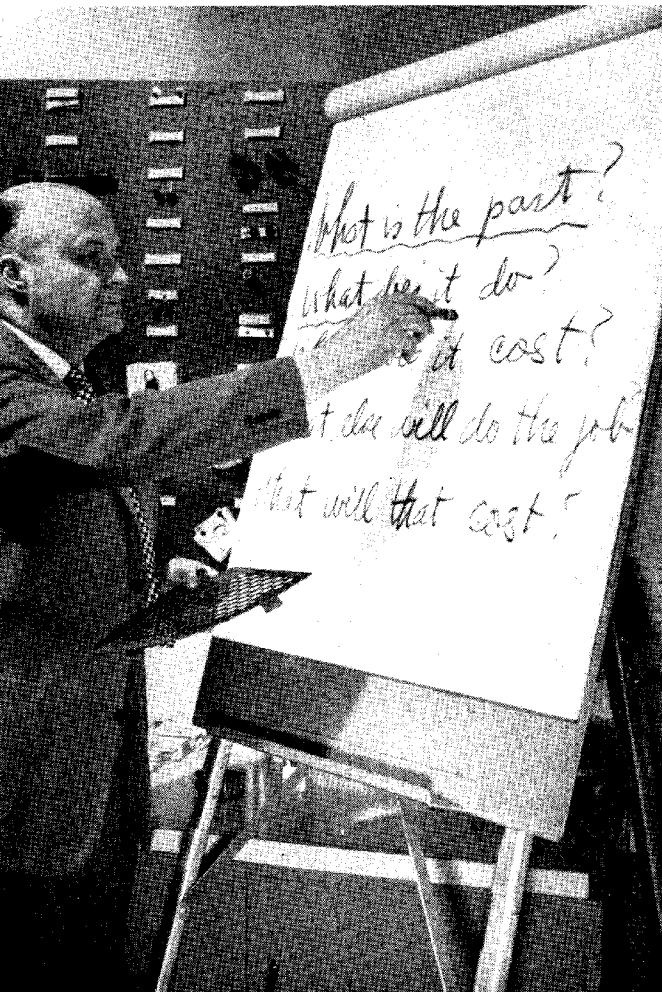
What's unique about the G. E. value system is the central group under Larry Miles. Although Mr. Miles is undoubtedly the nation's best known value analyst, neither he nor any members of his staff actually perform value analysis as such! The central group acts purely in an advisory capacity to the operating departments. It has two basic jobs. One is training operating personnel in value analysis techniques. The other is consultation—explaining value analysis to division management and allied groups.

Mr. Miles says his unit achieves its dual objective by performing these basic jobs: research, education, consultation, and motivation.

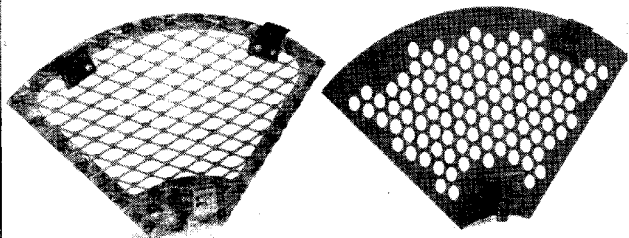
**Research.** The headquarters men under Miles spend a lot of time on basic research on new techniques of value analysis. One man, "Dusty" Fowlkes, spends all his time digging up specialty vendors who might be able to do jobs with techniques the average engineer isn't even familiar with. The results of Mr. Fowlkes' research are passed on to all appropriate operating departments where buyers and analysts can make use of them.

**Education.** When 2500 men have already been indoctrinated with the principles of value analysis, it's obvious that education is one of the most important jobs of Mr. Miles' group. In addition to this, he has sent information on dozens of purchasing agents interested in bringing value analysis into their companies. He and members of his staff have addressed a number of N. A. P. A. meetings. Training efforts continue with periodic seminars at G. E. plants, new written material, and development of various educational aids.

**Consultation.** Like every other G. E. corporate staff group, Mr. Miles and associates are available for consultation on their specialty to any G. E. manager requesting their services. However, they're available to guide only on principles, practices, and procedures. Actual analysis, as was mentioned previously, is always done by



Larry Miles' conviction and zeal for his subject have sparked many a production value analysis seminar. Here he lists fundamental questions—the answers to which slashed the cost of the motor guard below. The basic guard was formerly a two-piece welded assembly. Now it is made as a single stamping. Cost has gone from over three dollars to less than 40 cents.



operations. When operating departments need value analysts, they often call on Mr. Miles for help. Currently, he's trying to find qualified men to fill nineteen openings.

**Motivation.** Like almost everything new, value analysis has to be "sold" to people who are skeptical as to its accomplishments. Selling value analysis—both to people inside G. E. and in the business world generally—has been and still is one of the major efforts of Miles' group. Wray Reger's job at G. E. is value analysis communications. He arranges for publicity about value analysis in General Electric house organs and other publications. Other past efforts include publications like "Value News," etc. which are illustrated elsewhere in this issue.

Even trained value analysts need motivation. Like everyone else, they work best when their enthusiasm is high. That's one reason why Mr. Miles has a "group meetings coordinator" on his staff. Another reason is that analysts in the scattered G. E. plants need "cross pollination of ideas" if they're to continue doing the best possible job. So coordinator Dan Barlow arranges meetings for small groups of the company's hundred-plus analysts. Ten to fifteen analysts attend each meeting. Meetings are scheduled so that each analyst attends six meetings a year. For four of these meetings, the group is kept intact so that men with similar problems can exchange ideas. The men are deliberately mixed up for the other two meetings so that analysts with greatly dissimilar products and problems are working together. This helps stimulate a fresh approach.

The cost of General Electric's value analysis efforts amounts to more than many a small company's total payroll. Larry Miles is the first to admit that his organizational set-up is strictly big corporation stuff. But he emphasizes strongly that small companies can make money with value analysis. In fact, he believes that there are hundreds of companies who could derive amazing benefits from having a full time value specialist on their payroll. In any event, says Mr. Miles, every buyer should be trained to use value analysis techniques as part of his daily work. The training job is best done by a professional cost reduction specialist. But even inferior training is most always better than no training at all.

### **A New Profession?**

Mr. Miles can visualize value analysis as a separate independent profession. He firmly believes that there is as much need for the professional cost reduction specialist in industry as there is for any other professional man. Whether value analysis will become more of a specialized function than it already is remains to be seen. However, one thing is obvious right now. Value analysis is a field purchasing can't afford to neglect, if it is to continue to progress.

### **Tips for Small Companies**

Mr. Miles has had a lot more experience in dealing with the problems of value analysis in the small company than many people would give him credit for. Some G. E. departments have no more than a few hundred employees and operate on a semi-autonomous basis. Mr. Miles has also had a lot of dealings both with small suppliers and with purchasing agents of small companies who are interested in value analysis. He has been forced to learn a lot of "dos and don'ts" in value analysis the "hard way," through trial and error. Based on his experience, he offers these tips to small company PAs starting value analysis programs:

**1. Get a Full-Time Analyst.** There is an enormous difference between what can be accomplished by a man who devotes all his time to value analysis and one who's distracted by other duties. Mr. Miles knows of no company that has lost money on its investment in a qualified full time analyst.

**2. Organize for Value.** This is a tough one, Mr. Miles admits. But the fact is if purchasing isn't set up to accomplish its basic value mission and isn't an equal partner with engineering and manufacturing, there will be a tremendous loss of "value potential."

**3. Pinpoint the Opposition.** If purchasing gets the go-ahead from headquarters on value analysis, it should try to prevent opposition from developing in manufacturing and engineering by getting their understanding in advance.

**4. Concentrate on Single Items.** At the start, don't talk in terms of reducing over-all cost by 2% or saving \$50,000 per year. People won't believe you and will think you're just putting on a show to curry favor with the "brass." Instead, talk in terms of reducing the cost of some specific item. This approach will help sell value analysis, says Mr. Miles.

**5. Work through Friends.** The cold fact is a lot of people in your organization are going to think value analysis is nonsense when you first get started. The easiest and most effective way to overcome opposition is to by-pass it. Work only through those engineers who believe in value analysis. The results you achieve will bring around the scoffers.

# Does Value Analysis Pay In the Smaller Company?

**“V**ALUE ANALYSIS will save relatively just as much in the small company as it will in the large company,” says A. C. Gilbert’s purchasing agent, Ronald Jones. Gilbert itself is a good example of how value analysis can help a smaller company boost profits. The New Haven, Conn. manufacturer of educational toys and electrical appliances had some real problems right after the Korean War. Inflationary war pressures had pushed costs up to the point where profit margins had all but disappeared.

In Gilbert’s lines of business, prices must be competitive. To boost profits, costs had to be cut. A company-wide cost reduction effort was initiated. Purchasing was naturally a part of this program but Purchasing Agent Jones felt his department could accomplish even more. He suggested to management that purchasing take on a staff value analyst to help dig out additional cost reductions.

To an unprogressive management, Mr. Jones’ idea would have sounded ridiculous. Volume of purchases was only \$6 million. It was handled efficiently by Mr. Jones, an assistant purchasing agent, and two buyers. A separate staff value analyst would increase department overhead by a substantial percentage. And what could one accomplish with such a relatively low volume of purchases? Gilbert isn’t a G.E. or a Ford. Fortunately, Gilbert management was open-minded. It listened to Mr. Jones’ arguments that a good staff value analyst could pay for himself many times over. Proof of what value analysis had done in other companies also helped convince management. Mr. Jones got his analyst.

## **Plant-wide Program**

Value analysis isn’t something that’s just done by the staff analyst at Gilbert. Everyone makes some contribution. Cost reduction ideas affecting purchasing can be initiated in two different channels at Gilbert. One of them is through the plant-wide cost reduction committee. Specific products are reviewed at meetings attended by representatives of design engineering, production engineering, cost control and purchasing. When proposed changes might affect appearance of the product, sales is also invited to attend. The value analyst

(who is purchasing’s representative) transmits recommendations concerning purchased items to the buyers and they act upon them.

## **Purchasing’s Own Program**

Purchasing’s value analyst and other members of plant-wide cost reduction group don’t have a monopoly on cost reduction ideas at Gilbert by any means. Purchasing also has its own value effort. Unlike the plant-wide program, purchasing’s program is concerned almost entirely with purchased items—usually analyzed on a commodity rather than a product basis.

The value analyst picks out the items to be reviewed by going through the traveling requisitions. When you’re buying close to 12,000 component parts, this job is extremely important. The trick is to pick out the items that will pay off. Usually this means the expensive items and/or the high volume ones. (If you’re using 5 units per year of a part worth 1¢, you’re not saving much even if you get a 100% cost reduction.) Then the analyst gets blueprints and samples. Every Friday morning both the buyers and the analyst meet and review the parts that have been selected. Ideas that develop are then discussed with engineering, suppliers and any other interested parties.

Even in a small company, it takes a lot of OKs to get anything done. A full time value analyst can accomplish nothing if he can’t get others to cooperate. With the Gilbert program, cooperation was not brought about by management fiat; it was brought about because people were convinced it was to their interest to cooperate. The “self-interest” approach to getting everyone behind value analysis is the most successful. Here’s how it works at Gilbert:

**Interest Is Kept Active.** Exhibits are made of big value analysis projects by exploding detail components of a product on a display board. In this way everyone can more easily make a contribution. And, “before” and “after” exhibits graphically illustrate what can be accomplished.

**Incentives Aren’t Neglected.** Every effort is made to give recognition to cost reduction efforts at Gilbert. The man who makes the original suggestion is the one who gets the credit. His accom-

ishments are noted on his personnel record and they become one of the bases for salary boosts.

**Ideas Generate Ideas.** With proper incentive, people don't stop thinking. An idea that saves \$1,000 might lead to an idea that saves \$2,000 which, in turn, leads to an idea that saves \$5,000. Hundreds of thousands of small funnels are used in a Gilbert chemistry set. Purchasing found it could cut the cost of the funnel from \$111/M to \$80/M by bringing in a vendor with different manufacturing techniques. The change inspired the chief engineer to suggest that the funnel be made out of plastic instead of glass. This move reduced the cost still further to \$30/M.

**Keep Re-checking Promising Items.** If you happen to make a saving on a particular item, that doesn't mean you can't make additional savings. Three different savings were made on caps to seal vials (for chemistry sets) at Gilbert. The first change from a cork to a gel cap speeded up the assembly of the cap to the vial to the tune of an \$8300 per year saving. The second change, to a more costly plastic cap, speeded up assembly enough to make an additional net saving of \$3600 per year. The third change, to a different type of plastic cap and a lower cost vial, saved an additional \$4200/year. Total savings to date on this item: \$16,000/year.

**Wash Out Unprofitable Items.** Sometimes, says Mr. Jones, you can spend a lot of time trying to take cost out of an item and never succeed. Efficient value analysis involves realistic appraisal of a project's chances for success; whenever possible, the most time should be spent on the projects most likely to show a healthy sav-

ing. When the chances of making a saving are remote, the project should be dropped in favor of something more promising.

### Need for a Specialist

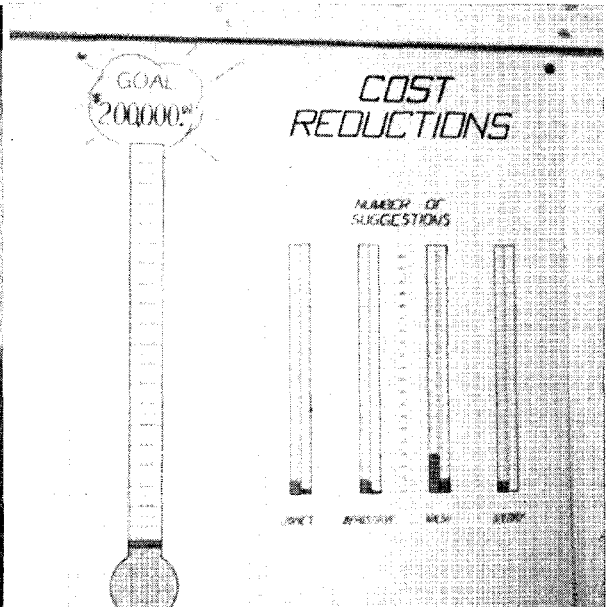
At Gilbert, many of the value analysis ideas are generated by the buyers. Nevertheless, according to Mr. Jones, a separate analyst in the purchasing department is invaluable. Buyers just don't have time to do a thorough job on value analysis without any help. There are too many interruptions; they rarely have a chance to give a value project their undivided attention.

In an organization sold on value analysis, however, there is a lot that buyers can do that would never show up on a savings report. Almost by definition, if there's value analysis, there's teamwork between purchasing and engineering. This can mean a lot of cost savings while the product is still in the design stage. At Gilbert, buyers attend "tool conferences" with design engineers to discuss products before they are put into production. As a result of such meetings, there has been a big reduction in the number of "specials" bought when a standard item will do the job. Also, engineers are better informed on the economics of raw materials. The net result: a better product at lower cost.

Although he knows value analysis is getting a lot of results that are hard to measure, Mr. Jones is banking on a lot of tangible savings this year. His cost reduction target is 3% of purchases. Even if he falls short of it by 90%, the savings will still greatly offset the cost of value program.

Purchasing Agent Ronald Jones has lectured on value analysis locally in New England and at the National Association of Purchasing Agents convention. The question most frequently put to him: how can we put it to work in the small company?

Simple visual presentations help maintain buyers' enthusiasm for value buying. Mr. Jones recently set up this progress chart in A. C. Gilbert's purchasing department. Number of suggestions is marked in blue—approved projects in red.



*Worthington Corp. spends \$80 million a year — in many widely scattered plants making a broad variety of products. This is a tough assignment for one value analyst, but the company is getting an \$8 return for every \$1 spent on the program.*

## One Value Analyst

**W**ORTHINGTON Corporation is justly proud of a pay-off of "at least 8-1" on value analysis. Savings of at least \$8 have been made for every \$1 that the company has spent on value analysis. These results are made particularly spectacular by the fact that the value effort has been diffused over such a wide range of products, plants, and processes. One value analyst, Ralph Dames, serves separate buying groups in eighteen plants scattered across the country.

A small company purchasing agent might think it would be easy to make a dramatic showing on value analysis in a company like Worthington with an \$80 million volume of purchases. The fact is it's no easier for Worthington to save money than it is for a company with a \$600,000 purchase volume. Worthington is really a group of much smaller enterprises. In general, the company makes many different products and models in relatively low volumes. One indication of this is the fact that the company's plants issue a total of about 5,000 orders per week. A lot of different items are bought in relatively small quantities.

A value analyst covering eighteen plants with this volume of purchase orders, never suffers from lack of potential projects on which to work. The big problem is to decide which jobs to tackle. This is particularly true when you're not in close physical proximity to more than a few of the plants you serve.

Mr. Dames solves his communications problem by having each plant send him carbon copies of every purchase order it issues. This "solution" creates another problem. How do you keep from spending all of your time going through the flood of paper from the plants? Mr. Dames' answer: "selective" value analysis. A secretary sorts out the order copies as they come in. About 10-15% of them are for more than \$1000. These orders, Mr. Dames always reviews. The balance of the orders isn't ignored, however. Occasionally, Mr. Dames reviews orders from one plant. He also regularly accumulates orders from all plants for specific commodities and uses the data for special studies.

Although Mr. Dames is the only value analysis specialist in the Worthington Corporation, he emphasizes that he is by no means the only person in the company engaged in value analysis. He says that he "likes to think of value analysis as a cooperative effort in which I am the clearing house." Obviously, Mr. Dames is rarely in a position to carry a specific value project through to completion himself. He's too far away from the actual operation in most cases. And he wouldn't want to, anyway; actual changes on purchase orders, etc. should be instituted by the buyer. What Mr. Dames tries to do is pass ideas on to buyers so they, in turn, can make savings.

If one buyer has an extra good source for some commodity, Mr. Dames passes this dope on to other plant buyers who handle the same commodity. If some new product will save money, Mr. Dames tells the buyers about it. If a "specialty" vendor looks promising, Mr. Dames will see that he meets the right buyers and gets a chance to quote. If it looks as though a design change will save money, Mr. Dames takes it up with plant personnel. Mr. Dames is a staff man in the strict sense. He is available to help the buyers save money and to funnel their ideas they can use. He doesn't do any buying nor does he attempt to tell buyers what to do. This "low pressure" approach is one reason why Worthington's value program has been so successful.

### Common Sense Techniques

There's nothing deep and mysterious about the Worthington value analysis techniques. They are made up mostly of applied common sense and imagination. Just about any size plant can make substantial savings by using them. One of the most straight-forward ways to save is simply to read a lot about new products and developments. For example, Mr. Dames read in a business publication how one company was rolling tapered threads. Worthington used a lot of pipe plugs that had cut tapered threads. 7-10¢ per plug was saved by changing to the lower cost rolled thread design.

**Value Analyst Dames:** "The secret is in convincing people that you're honestly trying to help them and aren't just trying to grab credit by exploiting someone else's ideas."



## for 18 Plants

"When you're buying in low quantities, a sure fire way to save is to use someone else's standard item," says Mr. Dames. For example if a vendor is making something for the auto industry at the rate of 5 or 10,000 pieces a day, the smart thing to do is to adapt your designs so that you can make use of parts made on the same machine set-up. And, of course, you always want to use standard off-the-shelf items whenever possible.

In a multi-plant company, one of the easiest ways to save is to consolidate purchases. In many cases, substantial savings can be made if all plants agree to place their requirements on a contract basis. In other cases, the vendor will agree to a better price if the over-all volume is used as a basis for negotiation.

"The biggest opportunity for saving is new methods," says Mr. Dames. Here he takes a leaf from the book of G. E.'s Larry Miles and devotes a lot of attention to the specialty supplier. Mr. Dames is always looking for vendors who offer a product that's a potentially profitable substitute for something Worthington is now using. One that he's currently working on is expanded metal. "Other interesting possibilities exist", says Mr. Dames, "in fields like cold heading, and plastics."

### **Getting Cooperation Is Easy**

Although communication is still somewhat of a problem, Mr. Dames has found that he has little difficulty getting others in Worthington to cooperate with him once they know what he's aiming at. "The secret", says Mr. Dames, "is in convincing people that you're honestly trying to help them and aren't just trying to grab credit by exploiting someone else's ideas. Although you may be dealing with a wide variety of personalities, they're basically interested in reducing costs and will work with you if you have something to offer them."

Mr. Dames points out that the typical Worthington buyer doesn't have time to sit down and make value studies and is glad to get anything from a staff analyst to help him do a better job.

### **"We Search and Research for Value"**

Constant search and research — generally starting with a review of a purchase order copy — in the past year have resulted in annual projected savings of about \$75,000 for Worthington. Typical among the productive "value investigations" carried on in this program are these, reported by Mr. Dames:

1. A study of a tabulation of the purchase of pipe fittings by a division led to the recommendation of a new source where established volume warranted a higher discount. **SAVING—\$20,000**
2. Suggested the use of pipe plugs produced by cold forming and thread rolling in place of those produced otherwise at higher cost. **SAVING—\$8,900**
3. Suggested the consolidation of purchase orders for a refrigeration line-strainer where two divisions were ordering from the same source of supply at varying cost due to quantity/price differences. **SAVING—\$4,000**
4. Recommended a new source of supply capable of furnishing standard packages of silica gel rather than obtain needs through a repackaging distributor. **SAVING—\$1,000**
5. Negotiated with vendor (seals) to revise O.E.M. discount schedule in view of competitor's ability to do so based on latest manufacturing advances. **SAVING—\$2,660**
6. Recommended revision of ordering frequency of a solenoid valve to take advantage of higher quantity discounts. (Study of accumulation of orders and interval of orders led to this suggestion). **SAVING—\$1,165**
7. Prevailed upon one division to specify copper-clad steel floats instead of those of solid copper construction. **SAVING—\$175**